UNIVERSAL
BODY
OF
PHYSICK
RIVERIUS

44158/c
E. XIV
17/n

RIVIERE, Lazare

207.4661

THE UNIVERSAL BODY OF PHYSICK,

In five Books;

COMPREHENDING THE

SEVERAL TREATISES

Of *Nature*, of *Diseases* and their causes, of *Symptomes*, of the preservation of *Health*, and of *Cures*.

Written in Latine by that famous and learned Doctor

LAZ. RIVERIUS,

Counsellour and Physician to the present King of *France*, and Professor in the Vniversity of

MONTPELIER.

Exactly translated into English by WILLIAM CARR *Practitioner in Physick.*

Quid non Gallia parturit ingens?

LONDON,

Printed for *Henry Eversden* at the *Greyhound* in *Pauls* Church-yard. MDCLVII.

4661

UNIVERSAL PHYSICK

In Five Books;

COMPREHENDING THE

SEVERAL TREATISES

OF

LAZ. RIVERIUS,

Doctor of Physick, and Professor in the University of Montpelier in France, and Physician to the King.

WELLCOME HISTORICAL MEDICAL LIBRARY

TO THE

RIGHT HONOURABLE

Sr. ROBERT TYCHBURN Knight

Lord Mayor of LONDON.

My Lord,

LEst the honour of your Lordships patronage should contract a blemish by undertaking for and fixing on so mean an object as my self, I beseech your Lordship think that most noble Physician *Riverius* himself humbly prostrate at your Lordships feet, and (as a stranger to this Climate) ambitious of your gracious protection. To present to your Lordships favourable acceptance any thing which I dared call mine own, were highly presumptuous and injurious to so discerning an eye as yours, being conscious to my self of these superficial besprinklings and that slender knowledge which is allowed me in Physick; as unseemly it were to offer to your Lordships view any one but this, or one so nobly learned as this Princely Physician *Riverius*, who I hope will not be the less acceptable to your Lordship for that he hath learned to speak

English

Engliſh. If theſe the firſt fruits of my undeſerving endeavours may be cheriſhed with the warm raies of your Lordſhips favour, and defended againſt thoſe ſtormes and winds with which puffing Cenſurers may attempt to blaſt them, they may at length become more mature, and afford a ſweeter and more pleaſing reliſh to your Lordſhips palate. I beſeech your Lordſhip pardon and accept this my humble boldneſs; and though I ſhould acknowledge my ſelf very happy in your Lordſhips peruſal of theſe unpoliſhed lines, yet that your Lordſhip may never have occaſion to uſe any thing in this or any other ſuch treatiſe contained, is the real deſire of

My Lord,

Your Honours ever humble ſervant

WILLIAM CARR.

THE

THE EPISTLE TO THE READER.

Reader,

I Presume thou wilt be courteous when that precious and invaluable jewel Health is offered unto thee, and doth as it were desire thy acceptance. Here she is richly attended and furnished with all those necessary conveniencies which are requisite for her preservation when she is in a good state; so that if thou wilt make a careful disquisition into those things which are here presented thee, thou mayest stand impregnable against the assaults and violence of diseases, and be a stranger to sighes and groans the bed-fellows and campanions of sick persons; or if thou art fallen into a valetudinary and sickly state, here thou maist have materials to repair those ruines and batteries which are caused by the fury of vehement diseases: here you are instructed how to break and quell the rebellion of those contumacious humors which treasonably conspire and make head against the body that harbours them; which though they have found lurking holes in which they may lye to a less cautious eye undiscovered till they have gathered strength enough to assail and overthrow Health; yet an accurate observer may by the rules herein proposed open their secrecy, and prevent their malignity; so that prehapes some may think us no less commendable then the American Travellers, who by the periclitation and endangering of their health labour after new-found worlds, while we by further discoveries and inquisitions into nature endeavour to preserve the old one. I omit other things whereby this book is commendable, and ought to be acceptable, lest I should swell

an

an Epistle beyond its natural proportion, and here prevent that praise which will be due upon perusal of the matter it self; This includes the whole: that Riverius *is the Author, who because an eminent Physician, is worthy of respect and honour; because a stranger, a fit object of (the glory of this Nation) entertainment and hospitality. Nor need any one cavil that he is a Frenchman, for we may embrace a French cure, though we abhorre a French disease: he that will peruse this Treatise may be his own Physician and patient, and reserve his Angels to be tutelary to himself.*

AN

Index of all the Books and Chapters contained in this Treatise.

Introduction to the whole body of Medicines. *Page* 1

THE FIRST BOOK

Containing Physiology.

The Preface.

The first Section.

Of Elements.

Of the nature of Elements. *Chapter* 1. *Page* 4
Of the number of Elements. *chap.*2.*p.*4
Of the qualities of the Elements. *chap.*3.*p.*5
Of the mixtion of Elements. *chap.*4.*p.*8

The second Section of Physiology.

Of Temperaments.

Of the nature of Temperaments. *chap.*1.*p.*10
Of the difference of Temperaments. *chap.*2.*p.*10
Of a well mixt Temperament. *chap.*3.*p.*12
Of the judging of Temperaments. *chap.*4.*p.*13
Of the Tempers of the several ages. *chap.*5.*p.*14
Of the Temperaments of the sexes. *chap.*6.*p.*16
Of the Tempers of the seasons of the year. *chap.*7.*p.*17

The third Section of Physiology.

Of Humors.

Of the nature of Humors. *chap.*1.*p.*15
Of the differences of Humors. *chap.*2.*p.*19
Of bloud properly so called. *chap.*3.*p.*21
Of alimentary flegme. *chap.*4.*p.*22

Of alimentary choler. chap.5.p.23
Of alimentary melancholy. chap.6.p.24
Of secundary humors. chap.7.p.25
Of Excrementitious choler. chap.8.p.26
Of Excrementitious melancholy. chap.9.p.27
Of serum. chap.10.p.29
Of Excrementitious flegme. chap.11.p.30

The fourth Section of Physiology.

Of the spirits and innate heat.

Of the nature of spirits. chap.1.p.32
Of the differences of spirits. chap.2.p.33
Of innate heat. chap.3.p.36

The fifth Section of Physiology.

Of the Parts.

Of the nature of the Parts. chap.1.p.40
Of the differences of parts, and first of similar parts. chap.2.p.41
Of dissimilar and organical parts. chap.3.p.42

The sixth Section of Physiology.

Of the faculties and functions.

Of the nature of faculties and functions. chap.1.p.44
Of the differences of faculties and functions. chap.2.p.45
Of the natural faculty and function, and their species, and first of nutrition. chap.3.p.46
Of the Auctive faculty and of accretion. chap.4.p.51
Of the generative faculty and of generation. chap.5.p.53
Of the vital faculty. chap.6.p.54
Of the animal faculty and function, and first of the principal faculties. chap.7.p.55
Of sleeping and waking. chap.8.p.57
Of dreams. chap.9.p.58
Of the less principal faculties. chap.10.p.59

The

The seventh Section of Physiology.

Of the procreation of Man.

OF the seed of both sexes. chap. 1. p. 60
Of Menstruous bloud. chap. 2. p. 62
Of Conception. chap. 3. p. 63
Of the delineation and perfection of every part. chap. 4. p. 64
Of parturition or bringing forth. chap. 5. p. 65
Of likenes of children to their parents. chap. 6. p. 65

The second Book of Medicinal Institutions Containing Pathology.

Introduction to Pathology.

The first Section of Pathology.

Of the nature and differences of diseases.

OF the nature of a disease. chap. 1. p. 69
Of the kindes and differences of diseases. chap. 2. p. 72
Of the species of a similar disease. chap. 3. p. 73
Of the species of an organical disease. chap. 4. p. 77
Of the difference of the common disease, or solution of the continuum. ch. 5. p. 80
Of the accidental differences of diseases. chap. 6. p. 81

The second Section of Pathology.

Of the changes of diseases, and chiefly of Crisis.

OF the changes contingent in diseases. chap. 1. p. 85
Of the nature of a Crisis. chap. 2. p. 86
Of the differences of Crisis. chap. 3. p. 87
Of the signes of Crisis. chap. 4. p. 91
Of the Critical dayes. chap. 5. p. 92
Of the causes of Crisis and Critical dayes. chap. 6. p. 99

The third Section of Pathology.

Of the causes of diseases.

Of the nature of the morbifick cause. chap. 1. p. 102
Of the differences of causes. chap. 2. p. 102
Of the causes of similar diseases. chap. 3. p. 104
Of the causes of organical diseases. chap. 4. p. 106
Of the causes of common diseases. chap. 5. p. 106
Of the causes of the accidental differences of diseases. chap. 6. p. 108

The fourth Section of Pathology.

Of the nature, differences, and causes of Symptomes.

Of the nature of Symptomes. chap. 1. p. 109
Of the difference of Symptomes. chap. 2. p. 109
Of the differences of action hurt. chap. 3. p. 110
Of the difference of excrement. chap. 4. p. 112
Of the difference of changed quality. chap. 5. p. 112
Of the causes of Symptomes in the genus. chap. 6. p. 113
Of the causes of injured actions. chap. 7. p. 113
Of the causes of Symptomes which are in excrements. chap. 8. p. 114
Of the causes of changed qualities. chap. 9. p. 115

The third Book of Medicinal Institutions containing the Semeiotical part.

The Preface.

The first Section.

Of Signes in their Genus.

Of the nature and definition of a signe. chap. 1. p. 116
Of the differences of signes. chap. 2. p. 117
Of the general originals of signes. chap. 3. p. 118

The second Section of the Semeiotical part.

Of the diagnostick signes.

Of the signes of bilious humor predominant in the whole body. ch. 1. p. 119

Of

Of the signes of pituitous humor predominant in the body. chap.2.p.121
Of the signes of bloud predominant in the body. chap.3.p.122
Of the signes of melancholy predominant in the body. chap.4.p.124
Of the signes of the affected part. chap.5.p.126
Of the signes of a part primarily diseased, or by consent. chap.6.p.129
Of the signes of the species of a disease. chap.7.p.131
Of the signes of a great and a small disease. chap.8.p.133
Of the signes of a great and malignant disease. chap.9.p.134
Of the signes of an acute and chronical disease. chap.10.p.136
Of the signes of morbifick causes; and first of the signes of preternatural choler. chap.11.p.138
Of the signes of preternatural flegme. chap.12.p.139
Of the signes of serum abounding. chap.13.p.139
Of the signes of flatulency. chap.14.p.141
Of the signes of the times of diseases. chap.15.p.141

The third Section.

Of the Semeiotical part of the Prognostical signes.

OF the signes discovering when a disease shall be long or short. chap.1.p.142
Of the signes of a disease tending to health or death. chap.2.p.147
Of the manner-how a disease will end, whether by Crisis, or a leasurable dissolution. chap.3.p.207
Of the time when the disease will end, wherein the day and hour of the Crisis is foretold. chap.4.p.208
Of the place where the Crisis shall appear, and first of the signes of the approching Crisis by vomit. chap.5.p.209
Of the signes of the Crisis by looseness. chap.6.p.209
Of the signes of an approching Crisis by sweat. chap.7.p.210
Of the signes of future Crisis by urine. chap.8.p.212
Of the signes of future Crisis by bleeding. chap.9.p.212
Of the signes of future Crisis by the monthes and hemorrhoids. chap.10.p.214
Of the signes of an ulcer. chap.11.p.214
Of the signes of those things which will happen to one already sick, or falling into a disease; and first of the signes

of approching madneſs. chap. 12. p. 215
Of the ſignes of approching convulſions. chap. 13. p. 217
Of the ſignes of a future relapſe. chap. 14. p. 218

The fourth Book of Phyſical inſtitutions.

Of the conſervation of health.

The Proem.

OF meat, drink, or of the matter of our nouriſhment. chap. 1. p. 220
Of the ſubſtance of aliments. chap. 2. p. 221
Of the quality of aliments. chap. 3. p. 222
Of the quality of meats. chap. 4. p. 225
Of the order of aliments. chap. 5. p. 226
Of the time and hour of eating. chap. 6. p. 228
Of the preparation of the nouriſhment. chap. 7. p. 232.
Of cuſtome, and delight in the uſe of meats. chap. 8. p. 233
Of meat convenient for every age. chap. 9. p. 234
Of diet convenient for every ſeaſon of the year. chap. 10. p. 236
Of Bread. chap. 11. p. 257
Of Barly, Rice, Oats, Beans, Peaſe, Vetches, and Lentiles, chap. 12. p. 259
Of pot-herbs moſt in uſe, and their faculties. chap. 13. p. 261
Of roots fit to eat. chap. 14. p. 263
Of fruits fit to eat. chap. 15. p. 264
Of animals fit for nouriſhment, and firſt of fleſh in general. chap. 16. p. 278
Of the fleſh of fourfooted beaſts. chap. 17. p. 279
Of the entrails and extreme parts of beaſts. chap. 18. p. 280
Of the nouriſhment contained in the parts of fourfooted beaſts. chap. 19. p. 281
Of nouriſhment from birds. chap. 20. p. 283
Of fiſh. chap. 21. p. 285
Of ſauces. chap. 22. p. 285
Of honey. chap. 23. p. 287
Of drink and matter fit for drink. chap. 24. p. 288
Of the air. chap. 25. p. 295
Of the ſeaſon of the year. chap. 26. p. 297

Of

Of motion and rest. chap.27.299
Of sleep and watchings. chap.28.p.300
Of Excretions and Retentions. chap.29.p.302
Of the passions of the mind. chap.30.p.303

The fifth Book of Physicall institutions containing the cure of diseases.

The Preface.

The first part of the cure of diseases.

Of the general method of curing.

The Proem.

The first Section.

Of the method of curing, and the indications.

WHat *is the method of curing, what curation is, and what are the conditions of it.* chap.1.p.307
Of Indications and their differences. chap.9.p.308
Of the things that indicate. chap.3.p.310
Of coindicaments, contraindicaments and correpugnants. chap.4.p.311
Of the things indicated. chap.5.p.313
Of the first and most general principle of curation. chap.6.p.316
Of the invention of remedies. chap.7.p.318

Section the second.

Of Indications from the cause.

OF *Evacuations in general and their differences.* chap.1.p.319
Of Revulsion, drivation and particular evacuation. chap.2.p.320
Of letting bloud. chap.3.p.325
Of Purgation. chap.4.p.330
Of the preparation and concoction of humors. chap.5.p.335
Of Evacuation by urine. chap.6.p.336
Of Evacuation by sweating. chap.7.p.336

The

The third Section of the first part of Therapeuticks

Of Indications from the disease.

Of Indications from a similar disease. *chap.1.p.337*
Of Indications from an organical disease. *chap.2.p.338*
Of indications from a common disease, or solution of unity. *chap.3.p.339*

The fourth Section of Therapeuticks.

Of Indications from strength.

What it is that indicates and coindicates dyet in sick people. *chap.1.p.340*
What those things are that dyet. *chap.2.p.341*
What are the kindes of dyet, and which are best suitable in diseases. *chap.3.p.341*
Of the quantity of dyet. *chap.4.p.342*
Of the time of going to victuals. *chap.5.p.343*

The second part of Therapeuticks.

Of the Physicians Instruments.

The Preface.

The first Section of the second part of Theraputicks

Of the matter of Physick.

The Proem.

The first part of the first Section.

Of the internal matter of Physick.

The Preface.

Of medicines cooling and attenuating choler. *chap.1.p.347*
Of medicaments cooling and thickening choler. *chap.2.p.348*

Of

Of medicaments altering choler. chap.3.p.349
Of medicaments altering melancholy. chap.4.p.350
Of medicaments altering black choler. chap.5.p.351
Of opening medicines. chap.6.p.351
Of purging medicines. chap.7.p.353
Medicaments purging choler. chap.8.p.354
Medicaments purging flegm. chap.9.p.355
Medicaments purging melancholy. chap.10.p.356
Medicaments purging watry humors. chap.11.p.357
Of vomiting medicaments. chap.12.p.358
Of sudorifick medicaments. chap.13.p.360
Of diuretick medicaments. chap.14.p.361
Of medicaments called Errhines. chap.15.p.363
Of sternutatories. chap.16.p.363
Of masticatories. chap.17.p.363
Of Cephalick medicamemts. chap.18.p.364
Of Ophthalmick medicaments. chap.19.p.366
Of medicaments for the breast. chap.20.p.367
Of Cardiacall medicaments. chap.21.p.368
Of Hepatical medicaments. chap.22.p.369
Of stomachical medicaments. chap.23.p.371
Of splenetick medicaments. chap.24.p.372
Of Nephritick medicaments. chap.25.p.372
Of hysterical medicaments. chap.26.p.373
Of Arthritical medicaments. chap.27.p.377
Of medicaments increasing and diminishing milk. chap.28.p.378
Of medicaments increasing or diminishing seed. chap.29.p.379
Of medicaments discussing wind. chap.30.p.379
Of astringent medicaments. chap.31.p.379
Of medicaments that kill the worms. chap.32.p.380
Of medicaments for wounds. chap.33.p.380

The fifth Book.

The second particle of the second part of the first Section.

Of external medicinal matter.

OF refrigerating and repelling medicaments. chap.1.p.381
Of Emplasters. chap.2.p.382
Of medicaments that ease pain. chap.3.p.383

Of

Of Narcotick medicaments. chap.4.p.384
Of Emollients. chap.5.p.384
Of resolving medicaments. chap.6.p.385
Of attracting or drawing medicaments. chap.7.p.386
Of suppurating medicaments. chap.8.p.386
Of cleansing medicaments. chap.9.p.387
Of sarcotick medicaments. chap.10.p.388
Of cicatrizing medicaments. chap.11.p.389
Of medicaments stopping bloud. chap.12.p.389
Of glutinating medicaments. chap.13.p.390
Of vesicating medicaments. chap.14.p.390
Of gnawing medicaments. chap.15.p.391
Of Caustick. chap.16.p.391

The second Section of the second part of Therapeuticks.

Of the composition of Medicaments.

The Proeme.

The first article of the second Section.

Of the Composition of internal Medicaments.

OF an altering apozeme. chap.1.p.393
Of a purging apozeme. chap.2.p.394
Of a purging potion. chap.3.p.395
Of potions corroborating, provoking to sleep, killing worms, and the like. chap.4.p.397
Of Juleps. chap.5.p.397
Of syrrups, and first of altering ones. chap.6.p.398
Of Magisterial purging syrrup. chap.7.p.398
Of vomitories. chap.8.p.399
Of Emulsions. chap.9.p.400
Of Milk. chap.10.p.400
Of Whey. chap.11.p.400
Of sudorifick decoctions. chap.12.p.401
Of the decoction of an old cock. chap.13.p.402
Of Brothes. chap.14.p.403
Of a Bolus. chap.15.p.403

Of

Of Opiates. chap. 16. p. 404
Of Conditements. chap. 17 p. 404
Of a Lohoch or Clegma. chap. 18. p. 405
Of Tablets. chap. 19. p. 405
Of Troches. chap. 20. p. 406
Of Powders. chap. 21. p. 406

The second Article of the second Section.

Of the composition of midling medicaments.

OF Suppositories. chap. 1. p. 407
Of Clyster. chap. 2. p. 407
Of Ingections. chap. 3. p. 408
Of Pessaries. chap. 4. p. 409
Of Errhines. chap. 5. p. 409
Of Sternutatories. chap. 6. p. 409
Of a Gargarisme. chap. 7. p. 410
Of Masticatories. chap. 8. p. 410
Of Collyriums. chap. 9. p. 410

The third Article of the second Section.

Of the composition of external medicaments.

OF an Epitheme. chap. 1. p. 411
Of Fomentations. chap. 2. p. 412
Of Bathes. chap. 3. p. 413
Of a Semicupe. chap. 4. p. 413
Of Oyles. chap. 5. p. 413
Of Liniments. chap. 6. p. 414
Of Oyntments. chap. 7. p. 414
Of Emplasters. chap. 8. p. 415
Of a Cataplasme. chap. 9. p. 415
Of a vesicatory. chap. 10. p. 416
Of Little Baggs. chap. 11. p. 416
Of quilts. chap. 12. p. 417
Of Frontals. chap. 13. p. 417

ERRATA

ERRATA.

PAge 6 line 43 read *in concertation*, p. 13. l. 22 r. *equality*, p. 17 l. 15 r. *from setting to rising*, p. 21 l. 28 dele *with*, p. 21 l. 14 r. *woad*, p. 32 l. 26 r. *nobility*, p. 33 l. 20 r. *over-swilling*, p. 34 l. 11 r. *have influx*, p. 45 l. 29 r. *nourisheth heat of the ventricle*, p. 50 l. 4 r. *crowd up*, p. 55 l. 11 r. *intermediate*, p. 72 l. 8 r. *prejudiceth*, same p. l. 22 r. *for them*, p. 170 l. 13 r. *intercident*, p. 171 l. 26 r. *hunger or*, p. 173 l. 30 r. *vitiation*, p. 203 l. 35 r. *be not shut*, p. 257 l. 3 del. *though more*, r. *and now, but so*, p. 267 l. 42 r. Galen *calls this a meat of*, p. 314 l. 30 r. *lesser dose*, p. 315 l. 11 del. *in the beginning*, p. 318 l. 28. r. *easily*, same p. l. 37. dele *are*, p. 321 l. 11 r. *are to*, same p. l. 33 r. *phlegm*, same p. l. 45 r. *unlike*, p. 323 l. 4. dele, *either from*, same p. l. 21 *comma after revulsion*, p. 328 l. 12 r. *he be*, p. 335. l. 2. r. *concoction*, p. 339 l. 11. r. *five*, p. 340 l. 16 r. *busied*, p. 344 l. 1. r. *of instruments*, p. 348 l. 23, 25, 28 *for poppy, pinetree, pineapples, pine flowers*, r. *red poppy*, p. 350 l. 18 r. *grains of* p. 354 l. 18 r. *infusion*, p. 364 l. 31 r. *Lilly*, p. 368 l. 21 r. *Doronicum*, p. 375 l. 30 r. *snakeweed*, p. 395 l. 37 r. *spike*.

LAZ. RIVERIUS

HIS

UNIVERSAL BODY OF PHYSICK.

Introductions to the Whole Body of MEDICINE.

Medicine is a Science unravelling the Diſpoſitions of Mans Body, for the Conſervation of preſent Health, and the Reſtitution of it being loſt.

A Controverſie hath been with much heat moved among Authors, concerning the detetmination of the Genus of *Medicine*; which being for the moſt part conjectural, and aiming at a certain end, *viz.* the acquiſition or conſervation of Health, it ſeems to be fitly rank'd in the number of Arts. But becauſe it ſtands upon the Baſis of its proper Principles, Actions and Demonſtrations, raiſed upon natural, and ſome of which are more evident than Natural Demonſtrations, as being intruſted to the apprehenſions of Senſe, and having one reall Subject, exiſting of it ſelf and excellent above others, *viz.* Mans body, whoſe proprieties it unmasketh; it ſeems in all reaſon more aptly to be related to the Sciences. To which opinion I rather incline, for the knowledg of Arts is acquired only by frequentation of practice, in which they are wholly imployed; and the habit of Medicine, as true Sciences, is gained by cuſtomary ſtudy, and inſtruction of learned Men: Nor can any Art be produced, which by Actions and Principles demonſtrates the paſſions and proprieties of its ſubject as Medicine doth; For though it be in ſome part conjectural; and delivers ſome precepts which are ſomething wide of certainty: This is no argument or ground for us to imagine it related to the Arts, for by this means Natural Philoſophy ſhould be referred to the Arts alſo; becauſe of the conjectural probation of many things, by reaſon that their true cauſes are not brought under perfect knowledg. Now the end which it intends is diſcerned by the method of its inſtitution, as *Alexander Aphrodiſæus* hath well obſerved; For Medicine falls under the notion of a double conſideration: Firſt, Either as it is taught by ſure ſolid and indubitable principles, and thus it hath no leſs right to the name of a Science, than Aſtrology, Geometry, or Arithmetick, being able to traffick upon her own ſingle ſtock. Or ſecondly, as it is applicable to the benefit of Men, as Aſtrology to the conſtitution of hours, Geometry to the commenſuration of the Earth, Arithmeticke to numerical computations. And Medicine thus conſidered ſteers to the moſt beneficial and excellent end of all.

But yet left I should seem too obstinate in the defence of mine own opinion, I say, Medicine may entertain the appellation of Science in a wider sense, which Aristotle in the *second Book of his Metaphysicks and the second Chapter* proposeth: as it comprehends sciences speculative and practical, but yet in such method that sciences practical are distinguished from true Arts.

The Subject of Medicine is Mans body as Curable.

In every subject of sciences there are required four qualifications, two relating to the subject it self, two to the science. First, as to the subject, 'tis requisite, that it comprehend all those things which are proposed in the science. Secondly, that it give unity and specification to the science, that from thence may be spun a definition. But as to the science 'tis necessary that it make no digression to any thing, which is not its object, or consequential to it. Next, that it unravel the causes, passions and proprieties of its subject, as Aristotle proves *in the fourth book of his Metaphysicks Chapter the first*: All which do so evidently appear in Mans body, that it may without exception deservedly be called the true Subject of Medicine. *It may be objected*, that Medicine doth not only treat of Mans body, but also of things natural, not natural, and preternatural, and so circles almost the whole Creation, as plants, animals, minerals, and what ever else is comprehended in the large extent of the universe, may be termed the subject of Medicine. *To this I Answer*, that a Physician handles not these things simply and in themselves, but as they bear a relation to Mans body, as they may be prejudicial or commodious for it, and these things are termed *the subject of contemplation*, but mans body *the subject of reduction*, viz. to which all other things are reduced.

But the End is Health.

Galen calls that the end in the acquisition of which the Artist resteth, because no action starts forward to infinity, but is at length brought to some perfection, in which the Agent doth acquiesce, which he is alwayes intent to attain, which is the scope of all precedent actions; and this perfection is called the end, which in Medicine is Sanity, to which all Medicinal operations are directed, which being attained the Physician sits down for company.

Some again may object, That Medicine being as to its *genus* a Science practical, whose end is action, as Contemplation of Sciences speculative, the end of Medicine is not rightly plac'd in rest. *I Answer to this*, That there is *one ultimate end*, to which the rest are subordinate, but there are more *intermediate ends*, which are actions previous to the arriving to that end: to these we referre when we constitute action the end of practical Science.

The Parts of Medicine are Five; the Physiological, Pathological, Semeiotick, Hygiastick, and Therapeutick.

The first and general division of Medicine is into two parts, The one consists *in Theory*, the other *in Practice*: the Theory delivers doctrines and *Theorems*, which are only officious in the acquisition of knowledg, and of no affinity to practice: they enquire into the nature, constitution, and various passions of their subject, *viz.* as it declines from Health into Disease, and the contrary: they also in-

struct

struct by what symptomes those various dispositions may be apprehended by a Physician. Hence from the Theory of Medicine flow three parts, the *Physiological, Pathological and Semeiotick*. But because these are points of Speculation in Medicine, that present Health may be preserved, or Health lost recovered; There are two other parts constituted which belong to practice, which squares our operations to a method and order, *viz. the Hygiastick*, To the conservation of Health, and *Therapeutick* to banish Diseases; The whole bulk therefore of these institutions shall be divided into *five Books* comprehending all the parts of Medicine.

The first Book of Medicinal Institutions containing Physiology.

THE PREFACE.

In Physiologie we are to consider all those things which are naturally coincident to the constitution of Mans body.

THE Subject of Medicine being Mans body, we must first make a curious enquiry into the nature thereof, that afterwards we may with the more ease understand the preternatural affections, which accidentally accompany it, and that means may be found to dissipate them, and preserve the state of nature. To this purpose the first part informes us in all those requisits, the concurrence of which constitutes Mans body, and are necessary to the performance of all his operations.

And this is quarter'd into Seven Sections, in the first we treat of the Elements, in the second of Temperaments, in the third of Humors, in the fourth of Spirits and natural Heat, in the fifth of the parts, in the sixth of the faculties and Functions, in the seventh of the generation of Man.

The first sensible principles which are the foundation of the fabrick of Mans body are the first elements of all things, from the various permistion of which there results a various temper; various Humors have a dependence upon the temper, upon the Humors Spirits, which preserve and make vigorous the natural Heat. To the Humors Spirits and natural Heat all the parts owe their production and sustenance, all which cannot be effected without the help of the Soul, which being richly furnished with faculties, compleates all these operations, and is the first mover in the conservation and primary generation of the whole Man. And this is the *order* which *Physiology* observes in delivering the instructions of natural things, which is meerly *compositive*, proceeding punctually from the first principles to their productions, till it hath fully represented the perfect and absolute artifice of Nature.

The First Section of the first Book of Elements.

The First Chapter.

Of the Nature of Elements.

Elements are Simple bodies, out of which all others are compounded, and into which they are at last resolved.

Elements are called *simple bodies*, because they are not compounded of other bodies of a divers species, but only of Matter and Form, which are the first principles of all things, yet are not bodies. The Elements therefore are the first Simple bodies, and the ingredients to the composition of all others; for it is beyond the reach of knowledg to find a body perfectly mixt which comprehends not in it self the substance of the four Elements, which is evidently visible in our bodies, which are compounded of four Humors of strait affinity to the nature of the four Elements; but this is more clearly manifested from the dissolution of mixt bodies, which thereupon flow again into Elements (as it is asserted in the definition) for example, in the combustion of Wood, part thereof is converted into Aire, as it appeareth by smoak, which abundantly streaming from it, is changed into aire, part alters into water, sweating out at both ends, part into earth by ashes, which are of a terrene Nature, lastly part thereof is transmuted into fire, as it is apparently demonstrated by the coals and flame. But though many bodies in their corruption have not straightway an immediate transition into Elements, but by a kind of vicissitude invest themselves in other substances, yet they at length in their ultimate resolution, retire into those Elements out of which they were conflated, as it appears in our Food, which in Mans body first is changed into Chyle, then into blood, and next into the substance of the body, which after Death is resolved into Elements, but part of this aliment degenerates into excrements, which in their dregs partly represent Earth, partly Water in Sweat and Urine, partly Fire and Aire in Steams, which insensibly leave the body being habitually disposed to such transpiration.

Chap. II.

Of the Number of Elements.

The Elements are four; Earth, Water, Aire, and Fire.

Some of the ancient Philosophers held the Elements to be infinite, whom *Aristotle* in his *First Book of the Heavens* convinceth; others contracted the Elements into one only, whom *Hipocrates in his Book of Humane Nature* confutes by the force of this indissoluble Argument; *If*, saith he, *man were constituted by one Element, he would not be sensible of any pain.*

The reason which confirms this consequence is this, because what ever Sympathize in pain, partake of the same sense, and are alterable, but contrariety is the cause of every alteration; if therefore there were but one Element, there could not exist any

any contrariety, becauſe nothing is contrary to it ſelf, and whatſoever ſuffers, the paſſion thereof proceeds from another thing.

But the cauſe why we preciſely oblige our ſelves to four Elements, appears by the firſt qualities, which being four are very diſtinct one from another, to wit, Calidity, Frigidity, Humidity and Siccity, which being accidents, it is neceſſary every of them ſhould have its particular diſtinct and ſeparate ſubject. Nor can it be concluſively objected, that there are but two Elements, becauſe calidity with ſiccity, and frigidity with humidity are coupled together in one and the ſame body; For if from hence we gather that there are two Elements; Calidity being linck'd with Humidity, and Frigidity with Siccity, we may gather that there are two more: beſides the probation of four Elements is ſenſibly confirmed by the diſſolution of mixt bodies, which are reſolved into thoſe four firſt bodies according to the aſſertion of the preceedent Chapter.

CHAP. III.

Of the Qualities of the Elements.

The Qualities of the Elements are firſt and ſecond.

The Firſt Qualities are thoſe, which are primarily in the Elements, and upon which the others have a dependence.

And they are Active or Paſſive.

The Active are thoſe, which have chief efficacy in the mutual alteration of the Elements, and in the conſtitution of mixture.

THeſe are not nominated *Active ſimply* and abſolutely, as ſome were of opinion, becauſe they only act, the reſt being purely paſſive; but this diſtinction is cauſed only by *Compariſon*, becauſe the Action of them is more efficacious than of thoſe others which are termed *Paſſive*, for that they are more Paſſive than Active, though they be not wholly deſtitute of action, for Humidity acts upon Siccity, Siccity upon Humidity.

And theſe Actives are Calidity and Siccity.

Calidity is the firſt Active Quality; the effect of which is the congregating of things Homogeneous, and diſſipating of Heterogeneous, as Ariſtotle *in his ſecond Book* of generation.

Logicians terme thoſe things *Homogeneous*, which partake of the ſame nature and ſpecies, *Heterogeneous* which are of diverſe Species, which underſtanding cloſeth not with this diſcourſe; for Heat in the generation of a mixt body, doth not only congregate things *Homogeneous* but *Heterogeneous* alſo, *viz.* moiſt with dry, which differ in Species. So alſo different Aliments in the ventricle are congregated by Heat and chylifyed. We muſt then here underſtand by things *Homogeneous*, thoſe which bear ſuch a relation of ſimilitude to one another, that they may be convenient to conſtitute the nature of one thing and to be converted into it. So moiſt and dry, by reaſon of their unition in generation of a mixt body are called *Homogeneous*; ſo in concoction Aliments diſtinct in their Species, are

Homogeneous;

Homogeneous; whereof that part which cannot aptly be reduced to Chyle, as the excrements, are only *Heterogeneous*, and therefore segregated.

And there are other proprieties of heat, viz. Resolution, Operation, Incision, Maturation, and Attennation.

Nature is infinitely stored with examples of these proprieties, but they are more apparent in the matter of Medicaments, which by the vertue of them are very efficacious.

Frigidity is a first active quality which musters together things Homogeneous and Heterogeneous:

So water with water, wax with wax, and any other thing adhering or incident to them, as Straws, Stone, Wood, Sand, Chaffe, and other things are coagmented together by conglaciation; till by Heat dissolving this combination they are separated.

The work of Frigidity is to allay Heat to a due temperament, lest the mixt body should be over-Heated to a dissolution.

This quality doth not only rally together things Homogeneous and Heterogeneous, but also fixeth them to adstriction, condensation, obstruction, and incrassation.

Cold being contrary to Heat intailes a necessity to the contrary production of effects, nor must we comply with *Cardan*, who is of opinion that cold is meerly the absence and privation of Heat, and nothing positive; which *Avicenna* seems to intimate, who sayes, that cold is no ingredient to the operations of Nature. But *Scaliger* learnedly opposeth them both, *Exercit.* 22. And before his time *Averroes*, whose assertion, that cold is requisite in the works of nature, is established upon the basis of two reasons, first by tempering the Heat; next by operating in things a consistency and coherence of parts; which cannot be effected by Heat whose propriety is dissolution.

Thus much of the Active qualities.

The Passive are those which are less Active, and therefore in the mixtion of bodies are subordinate to the Active. And they are Humidity and Siccity.

Humidity is a Passive quality, whose effect is to make things exorbitant as to their own bounds, but easily confined to the limitation of another, Arist. 2. gene.

So water, wine, oyl and other humid bodies diffuse themselves, and can only be contained within the bounds of vessels.

Siccity is a passive quality making things to be easily content with their own limits, but impatient to be bounded by any other.

So wood, stones and other such like things, do obstinately hold their proper figure, nor easily receive the impression of another.

It may be objected, that fire which is highly dry is not confined within its own but rather some aliene boundary; which may also be affirmed of dust and ashes.

To which I oppose, that this is by accident and not naturally contingent to fire, because of the tenuity of its substance, which will not admit such cohibition, for there must be a copulation of Siccity with some density, that this description may properly be applyed to a substance. But dust and ashes in conservation retain their proper figure: for they are not a body continued, but a contiguity of the smalest parts of the earth, which by reason they are so exile can be entertained in any place.

These four first qualities are found in the Elements, as they can in possibility comply: For we meet with Calidity and Siccity in Fire, Calidity and Humidity in Air, Frigidity and Humidity in Water, Frigidity and Siccity in Earth.

The inherence and conjunction of these first qualities, are at large disputed with

with much opiniative Heat of controversy by Professors in Physick, to whom for brevity sake we referre the Reader.

Thus farre concerning first qualities.

The second qualities are those which immediately result from the temperature and mixtion of the first.

By this description we cashеer from the second qualities, colours, smel, and taste, which are not the immediate effects of the first, nor so manifestly, but more remotely and obscurely depend upon them. For this cause some, though not significantly, place them in subordination by the terme of third qualities. In which if there be any difficulty the enucleation thereof must be referred to the doctrine of the Senses, because without these perspectives they cannot be brought under a right understanding.

These are fourteen, viz. *Rarity and Density, Gravity and Levity, Hardnesse and Softnesse, Subtility and Crassity, Aridity and Lubricity, Friability and Clammines, Asperity and Lævity.*

Rarity is a second quality produced chiefly by Heat, by which things are extenuated to a possibility of dissipation.

So Water by the Heat of the Sun is attenuated, thin, and dissipable: so clouds easily pierced by the rayes of the Sun, are usually termed rare.

'Tis worth observation, that rarity is twofold, one, which consists in the tenuity of substance: and this is properly reduced to the Predicament of quality, accompanying Heat as the effect thereof, and so the aire is thin, the earth thick. The other consists not in the tenuity of substance, but in the remoteness of parts, so we call a spunge rare, because of those intervalls and distances of the parts which lodge the aire: and this Rarity takes place in the Predicament of Site, and is, though better understood by us, more improperly termed Rarity.

Density is a second quality arising from Cold, by which things become more compact, firme, and with difficulty dissipable.

So water congealed by cold, so stones and metalls are dense.

Gravity is a quality produced by cold and density, by which things tend downwards.

Levity is a quality produced from Heat and rarity, by vertue of which things make upwards.

Hardnesse is a quality arising from Siccity, by which things yield not easily to the touch.

Softnes is a quality arising from humidity, which renders things tangible without a repulse.

Subtility is the production of Heat, Siccity, and Rarity, by which things are attenuated and fitted for penetration.

It differs from rarity, as the effect from its cause; rarity being the Procatarctick of subtility. But not all rare things are subtile, for there is rarity in the aire, but no subtility, and some aire is crasse; so by our advice our patients remove from gross aire, which in many diseases is not good to breath in.

Crassity is a quality which owes its being to cold, and density, by which things become Solid and less fit for penetration.

For Crassity is differenced from density, as the effect from its cause, for all dense bodies cannot properly be termed crasse.

Aridity is a quality generated by Siccity, which banisheth almost all humor. Lubricity is a quality flowing from humidity, by which things being rendred slippery deceive the touch.

So a Snake, and a way conglaciated is slippery.

Friability

Friability is a quality arising from Siccity, by which things for want of coherency may easily be crumbled.

So salt and sugar are friable.

Clammines is a quality arising from humidity, which causeth things to be sticking and glutinous.

So pitch, glue and other such like things are called sticking.

Asperity is a quality issuing from Siccity, by which the superficies of things is unequal, and not tangeable without offence.

So the barks of Trees and pumices are offensive by their asperity.

Levity is a quality arising from humidity, by which things being of an even superficies are pleasing to the touch.

This quality is not the effect of humidity only, but may also be artificially produced, when the rudenesse of things solid and dense is polished and plained.

Chap. IV.

Of the Mixtion of Elements.

Mixtion is the union of things miscible upon their alteration. Arist. 1. of generation, Chap. 10.

BY *Miscibles* are understood Elements which are disposed to commixtion by a mutual alteration, and reduction to such a temper, that they may be united into one. From which union springs a new form, which is termed the form of a mixt body: for example, when seeds of divers plants, are so mingled that there remains a possibility of separation, this is called *apposition*; but when water and wine or such other things are mixed, so that the union cannot be parted, and yet no new form produced, this is called *Confusion*. And both of these are improperly termed mixtion.

Four Conditions are requisite to produce mixtion.

1. *The Miscibles must be contrarily qualified, that they may be fit for mutual action and passion.*

If the things mixed did not mutually act one on the other, they could not be reduced to a due temper, whose spawne mixtion is, and by that means they would not be moved from their former state.

2. *A just proportion of Miscibles is necessary as well for quantity as for quality.*

For if one exceed in quantity or quality, that will destroy the rest, and appropriate them to its own nature, hence will arise the generation of one, and the corruption of the rest, but no mixtion.

3. *While the Elements are mixed, they must be mine'd into very smal particles, that every iota of the mixt body may comprehend in it self the four Elements.*

This unition is caused by nature, which by making the Elements penetrable fits them for a mutual incursion, that so the transmutation may be the easier.

4. *The forms of the Elements must remain in mixt bodyes.*

This causeth a difference between *generation* and *mixtion*; for in generation by the accession of a new form the precedent are corrupted; but in mixtion, the

the new form produced, together with the constitutive form of the mixt bodies, dwell peaceably under the same roofe. The truth of which may hence be asserted, because the form is author of all action; but the skirmish of contrary qualities in mixt bodies, of which their destruction is the consequence, cannot be caused by their form; for by this meanes it would be treacherous to it self, and accessary to its own destruction; which runs counter to true Philosophy. This implies a necessity of its dependence upon the formes of the Elements, and so that the Elements remain formally in mixt bodies.

This affords matter of objection; That if a mixt body admits of plurality of forms, it loses its unity of being, for of many actuall beings, cannot arise one being by it self, as Aristotle in the 2. *of his Metaph.* but only accidentally aggregate, but the form gives an actual being to every thing. For the delumbation of this argument, *I Answer*; that this is true, if we level the vertue of forms into an equality, so that no one may Lord it over the rest; but in mixt bodies there is a herauldry, one form being nobler than another: which is the form of the mixt body it self, to the commands of which the forms of the Elements, comming short of it in perfection, pay the tribute of obedience, and comparatively to it they are as the Matter, though in relation to the Matter of the Elements, they are true forms. Which that we may the more easily understand, we must know, that the Elements are considered in a double relation, either in relation which they bear to the *Materia prima*, out of which they are conflated with their proper forms; or *to that body*, whose matter they are; in the first consideration they are said to have an actual being, in the latter a potential only.

For as in Logical predication, the intermediate *genus* is in regard of its inferiors a *genus*, of its superiors a *species*; so in the essence of things, there are some mediate acts, which compared to the precedent matter may be called actual, which in respect of a compleater composition are only potential. Now though the forms of Elements in comparison to the form of a mixt body are as matter and only potential, yet in respect of the matter of which the Elements are compounded, they are alwayes actual and continually labouring to alter the matter, that they may retreat into their former nature, and be set at liberty, but the form of the mixt body, according to its authority quels and suppresses these active tumults for the better securing of its preservation, till they summon in external causes as Auxiliaries to invade the honour and disloyally shake off the yoke of this noble form and so procure the destruction of the mixt body. I might enlarge in the explanation of this knotty and intricate Theoreme, in which I have been brief, because as *Galen* himself *in the first book of the Elements* affirms, it is very little conducible to Medicine. Here therefore *I will put a period to the first section.*

The

The Second Section of Physiology of Temperaments.

The First Chapter.

Of the Nature of Temperaments.

A Temperament is a proportion of the four Principal Qualities resulting from the mixtion of the Elements, for the due performance of operations.

A *Temperament* retains to mixtion as the effect to its cause, arising from that mutual contemperation of the first qualities, which produceth that due proportion requisite to the execution of all actions: but it is called *proportion*, as being a relation, which the qualities so tempered mutually bear to themselves, not a quality differing from the four first, as *Avicenna* fansyed, whose opinion *Fernelius* copiously confutes.

It may be objected; That if Temperament be a relation, the actions shall have no dependence on it: because relation hath no active vertue, nor can one Temperament be properly termed contrary to another, because relation admits of no contrary. *To this I Answer*, That the Temperament acts not, by vertue of proportion, which is a relation, but of the foundation, on which this relation is established, for the first qualities are laid as the basis of this proportion, and upon these the actions do essentially depend, for the whole essence of the Temperament consists not in the relation of the proportion, but necessarily imports such a relation; as if we should say, that Temperament were the first qualities reduced to a certain proportion.

Chap. II.

Of the Difference of Temperaments.

The Temperaments are Nine, four simple, Hot, Cold, Moist, Dry; four compound, Hot and Moist, Hot and Dry, Cold and Moist, Cold and Dry; one moderate, called Eucrasy.

Bodies so tempered that one quality exceeds the rest, are said to be of a simple Temperament, but when two qualities stand as it were in competition for supremacy over the rest, they have a compounded Temperament; but when all the qualities are fixed to a due Mediocrity, they are then esteemed to be perfectly tempered.

Hence

Hence may arise an objection, That the first eight differences of Temperaments are caused by some predominant Element, or at least in our bodies by some predominant Humor; hence some Temperaments are termed bilious, some pituitous, and so of the rest; but every Element is fortified with two qualities, by whose excess the consequence of theirs is necessary; humors also haue two predominant qualities; therefore there can be no simple Temperament, but all are compound.

To this I oppose. That in mixtion or alteration there may possibly be such a concurrence of the Elements, that one quality may be broken, when the other is in excesse, *viz.* if Aire and Fire exceed, the humidity of the one will temper the Siccity of the other, but when both are hot, they will cause an excess of heat; so it fares with humors, for the Siccity of Choler tempers the humidity of the blood, but when both are hot they inflame to an intemperancy of heat.

These Temperaments are said to be such, either absolutely or comparatively.

Absolutely such are those in which one or two qualities are predominant, which afford them a denomination.

So Fire is absolutely hot, water cold; so all perfect animals are absolutely hot, because of the predominancy of Heat in them, for Heat is the vigour of life.

Comparatively such are those, in which these qualities do more or lesse exceed, then in those with which they are compared.

So a man in relation to a Fish is hot, to a Lion cold; the brain cold in respect of the heart: from whence it appears, that one and the same thing is comparatively cold, which notwithstanding is absolutely hot.

And this comparison may be triple, either according to the genus, *or the* species, *or* Individuum.

Comparison according to the genus, *is that which is between things of a diverse* genus.

As when we compare the temper of an animal with a plant or mineral.

Comparison according to the species, *is between things differing in* species.

As when we compare the temper of a Man with the temper of a Lion or a Dog.

Comparison according to the Individuum *is, when individuals of the same* species *are conferred.*

As when we compare the Temperament of *Socrates* with that of *Plato*; and thereupon passe judgement that one is hotter or colder then the other.

There arise also many comparisons of Temperament in an individual by a comparison reflected upon it self, and that either in the whole individual, as when *Socrates* now decrepit casts a comparative glance upon the time of his youth; or when he is dismembred to a comparison, as when the Temperament of his Liver is compared to that of his Stomach, and other such like, of which knowledge is easily attained.

Chap. III.

Of a well mixt Temperament.

A well mixt or moderate Temperament is twofold; one ballanced by Weight, the other by Justice.

Moderate according to Weight, is that in which the first qualities of the Elements are reduced to such an accurate proportion, that one is not counterpoised by another.

SOme term that a body tempered according to Weight, in which there is not onely found an equal proportion of Qualities, but of Elements also, which is an impossibility in Nature, and not comprehensible by Fancy, for Immobility is the necessary attendant thereof, every mixt body steering by the motion of its predominant Element; nor would any find its proper place, for every thing naturally hath a station, which is proper to such predominant Element. We must therefore understand it onely of qualities equally mixed, which whether there be any such thing in Nature, is with some disputable; who are of opinion, that it was by Authors constituted, onely to represent as an *Idea* a perfect Temperament, and to be the rule and square of the rest, that by comparison we might pass the better judgement of their excess; As *Plato* hath modelled such a perfect Common-wealth, *Cicero* such a perfect Orator, and the Stoicks such a perfect Sage, as never were in being. And *Galen* himself *in his first Book of the Preservation of Health, Chap.* 5. affirms, that such a Mediocrity is not easily found. And if any one should accidentally meet with it, it will escape the quickest stroke of the understanding, subsisting not the least divisibility of time without variety of change. It is therefore rather imaginable then truely subsisting, especially being not so conducible to the exercise of various acts, as that which is called Temperament according to Justice, as it shall after appear.

It is called Temperament according to Weight, because it consists of the just measure, and at it were, ballance of Elements, which is not ground enough to make this denomination proper. Philosophers call it *Temperament according to Arithmetical proportion*; because, as in Arithmetical proportion there is a parity in numbers, or in the distances of the numbers, so that there is no larger *interstitium* from 2 to 3, then from 3 to 4: So in this Temperament there is a kind of parity in the qualities, so that one is equal to another.

That Temperament is called Moderate according to Justice, in which the first qualities of the Elements are so apportioned, that every thing according to its species is fitted for the execution of its proper actions. Things different in *species*, differ in Functions, and all the Functions of every thing depend upon the Temperament, therefore it is necessary that their Temperaments be various, whereby that may incline to such variety of action; so that in one body Heat masters Cold, in another Humidity reigns over Siccity, for differing tempers are required to execute the operations of a Man, a Lion, and an Horse, and so forth. And this is called a Temper according to Justice; for as Justice scatters not her favours, nor inflicts her penalties equally on all, but according to the dictates of Reason, proportions to some more, to some less; by which disparity of distribution, there appears much equality in Justice: So the justice of Nature lends divers Temperaments to things distinct in *species*, by the help of which they may be enabled to a compleat and perfect

perfect execution of those duties to which they are by Nature designed. This is called by the Philosophers, *a Temperament according to a Geometrical proportion*; for as in Geometrical proportion we examine not the equality of Difference but of Reason; so in this Temperament, we weigh not the proportion of these qualities by the ballance, but by their apt congruity and acommodateness to the nature of every *species*.

CHAP. IV.

Of the Judging of Temperaments.

All the differences of Temperaments are perceptible by the Touch.

ALL those differences rely upon the excess of the first qualities, which are the object of the sense of touching, as Colours of Seeing, Sapors of Tasting, and Odors of Smelling.

The organ of Touch is the Skin, which chiefly we have at our fingers ends.

An organ adapt for the disquisition of the excess of all qualities, must have an inherent mediocrity of them all, and not lean to a partiality. This is the Skin of a well-tempered Man, in which resides an equal portion of seed and blood, which cause a moderate Temperament, parts wholly Carnous being hot and moyst, Spermatick cold and dry: But that the excess of qualities may be perceptible by the Skin, it must enjoy its natural temper, free from the overballancings of any one quality; for instance, if it be almost congealed with cold, it is uncapable of this office. The skin of the Hand is better qualified for it then of any other part, not that extended over the palm, because of the hard tendon which lurks under it, which being condensed by continual attrition, becomes callous, but that which terminates the fingers, as retaining usually its natural constitution.

But the Skin hath a positive sense of the inequality and excess of Temperaments, but a privative of their quality and moderation.

All Sense comes by Passion, and all Passion by Contrariety, but the Excess of Tempers stands in contrariety to the Moderation of them; by this means they do really and positively affect a temperate skin; but a moderate temper being not heightned to an excess of qualities, therefore not affecting the Touch falls onely under the understanding of Privation. For those things which being neither hot nor cold, do no way affect the Sense, because of their congruity to it, are esteemed temperate.

A COROLLARY.

Concerning the Judging of Temperaments.

THough the umpeerage in the determination of Temperaments is attributed to the Touch, yet we cannot absolutely conclude it thus without an exception; for *Galen in his third Book of the Temperaments*, asserts Touch to be the absolute Arbitrator of Heat and Cold, but of Moist and Dry not simply, but by a rational

application, for Humidity cannot be known but by Softneſs, nor Siccity but by Hardneſs; but the Touch meets with many hard things void of Siccity, and with many ſoft things of Humidity. For a thing may be termed Hard three wayes, as *Galen in the fifth Book of the Faculties of ſimple Medicaments, Chap.* 4. affirms: by dryneſs, as is evident by the bones; by concretion, as in Ice, and other things condenſed by the force of cold; and by repletion, as in the bladder of men inflated with Hydropical tumors. Hence it appears that many things are hard, yet not dry; So many things natural dry, as Lead, when liquefied, ſeem to be ſoft: Hence we may gather, that theſe qualities will eaſily decoy the Touch by ſuch impoſtures, unleſs we take advice of Reaſon.

But ſome may ſpin from hence an *Objection*, That the ſame aſſertion will hold good of Heat and Cold; whereas of things Hot or Cold, ſome are ſo actually, ſome potentially; ſome in themſelves, others by accident; as Pepper is potentially very hot, yet being expoſed to the ſeverity of a nipping Winter, will repreſent it ſelf cold; and Water, which in its owne conſtitution is cold, by calefaction will be counted hot, becauſe it preſents it ſelf to the Touch. This may be a ground of no deſpicable doubts in paſſing judgement of them; unleſs we call Reaſon to the Bar, which may unriddle the myſtery of their natural conſtitution.

To this I *reply*; When we aſſert that the Touch onely is the great umpire of Cold and Heat, we principally underſtand this of the Temperament of the whole body, without any relation, which properly belongs to Reaſon. The like judgement may be paſſed of thoſe things which are ſuch in themſelves, not by accident; actually, not potentially: For as to theſe it will hold true to ſay, that the Touch is the true Judge of Heat and Cold, as they affect it being preſent; which is not contingent in things moiſt and dry, being repreſented to the Touch, not by themſelves, and immediately, but by the interceſſion of other qualities, *viz.* Softneſs and Hardneſs.

Chap. V.

Of the Tempers of the ſeveral Ages.

An Age is a ſpace of life, by which with the concurrent action of the natural heat operating upon the Native moiſture, is produced an evident mutation in the conſtitution of the Body.

WEE owe the conſervation of our life to natural heat, which uſeth the native moiſture as food, and by degrees preys upon it, the action of which calls a repaſſion, by which being debilitated by a kind of ſympathy, it moulders away, together with the moiſture: ſo that our bodies in the cradles of our life are abounding in heat and moiſture, which in the maturation of Time become cold and dry, and this gradation of Time which leads us forward to theſe mutations, and meaſures out our lives, is called Age.

The principal differences of which are foure; 1 *Puerility*, 2 *Youth*, 3 *Setled Age*, 4 *Old Age*.

This

This whole continuity of life is signalized with four grand mutations, as it may be exemplified by all things, every thing having a beginning, growth, stature, and declination; therefore the whole age of man is divided by *Hippocrates* into four parts correspondent to the number of the Elements, the seasons of the yenr, the humors of our bodies, and their Temperaments, which is of special use to Physicians. For though Lawyers and Astrologers for the better accommodating them to the doctrines of their Sciences, have made another division of the Ages, this is little considerable, though in our Authors we meet with some subdivisions of these Ages as we shall after shew.

Puerility from its first blossome shoots out to twenty five, and is of constitution hot and moist.

This bears a relation of similitude to the spring, and of the humors to the blood, for both are judged to be hot and moist.

This again crumbles into four parts; of which the first is termed Infancy, *sprouting to the fourth year, or according to the opinion of some to the seventh: the second* Puerility *in progresse to the fourteenth year; the third*, Youth, *hasting to eighteen; the fourth* Adolescency, *terminated by twenty five.*

In that interval whose extent is to twenty five, the moisture is in a deep Consumption, therefore mans life was minced into these subdivisions according to the proportion of that; but there happens a more notable change in youth then in the other divisions, for then a downy chin is fashionable from whence this Age took its appellation, then maidens breasts are impregnate and their Moneths issue, and the voice of males is more full and rough; hence *Hippocrates* calls them *Goatish*, because they are then addicted to Venery, which is caused by the *vigour* of heat, which then breaks out of prison from the humors, and begins to exert it selfe.

Youth ranges to thirty five or forty, and is hot and dry.

It is set in comparison with the summer and the bilious humor; for then heat is in the highest point of its horizon, which by its vehement action out of the ashes of moisture rouzeth up Siccity.

Here a *Quere* is made, whether youth be hotter then Puerility? *I Answer*, that boyes are extensively hotter, youths intensively; or boyes are hotter in consideration of the quantity, youths in respect of the quality. For this heat falling under the consideration both of substance, and quality, as to the quantity or copiousness of the substance, there is greater plenty of it in boyes then in youths, for the lesse we are distant from the womb of our natural principles, we are the more fertile in heat and moisture. But as to the quality, heat is without doubt more intense in youths, because of their Siccity, which is the accomplishment of heat: hence the heat in boyes is gentle, sweet, and habituous, as being allayed to a moderation by the natural moisture: but the heat of youths is biting, sharp, and unsavoury, by reason of sharp vapors, which exhale out of dry bodyes.

Constant Age dilates it self to forty five or fifty, and is cold and dry.

It is denominated *constant* Age, because though there begins to be some diminution of the strength, yet this change is not perceptible in any habit or action, but men so aged seem to be fixed in the same station; this age is comparatively related to Autumn, and the Melancholick humor, which now abounds, because of the ill cookery of Choler scorch'd in youth, which is now converted into Melancholy.

Old Age puts a period to life, and is cold and moist.

The temper of old men is two-fold, either according to the temper of the solid parts, or the liberality of the excrements. As to the solid parts they are cold

and

and dry, becauſe of the great diminution of their native moiſture, by which means the parts are much dryed. But as to the excrements, which for want of heat are very copious in them, and are cold and moiſt; they are thence ſaid to be cold and moiſt alſo; which ſenſe we keep to, that we may not loſe the Analogy of the Ages with the ſeaſons of the year and the humors, and ſo old Age is compared to the Winter, and to the pituitous humor, which in it is copious.

And this is ſubdivided into three parts; *The firſt is called* Old Age, *extending from fifty to ſixty*; *the ſecond*, Ingraveſcent Age, *from ſixty to ſeventy*: *the third* decrepitneſs, *from ſeventy to the concluſion of life.*

Men in *the firſt entrance of old Age*, are yet able enough to execute civill duties. In *Ingraveſcent Age* they are weaker and want more eaſe, but not a totall receſſe. But in *Decrepit Age*, being plundered of all ſtrength, there muſt be a totall ceſſation from buſineſſe, they muſt be favorable to themſelves, and entertain only thoughts of futurity. But here we muſt take *notice*, that all theſe Ages are of a large extent according to the ſtrength or invalidity of mens conſtitutions, ſo that ſome are more ſenſible of the defects of Age at fifty then others at ſixty or more.

Chap. VI.

Of the Temperaments of the Sexes.

Males generally are Hot and Dry, Females Cold and Moiſt.

THE infallibility of this Theoreme will eaſily appear by the knowledge of thoſe ſigns which diſcover a Hot and Dry temper, which are deduced from the cauſes and effects of it. And firſt as to the cauſes; the ſeed (which in generation performs the duties of the efficient, and the matter) ingredient to the generation of Males is hotter then that, which produces Females. For acccording to *Hippocrates*, the *cloſet of Males is on the right*. But it appears by Anatomical diſquiſition that the right veſſel which is the treaſure of ſeminal matter takes riſe from the bottom of the *Vena Cava*, by which means the ſeed is hotter; but the left is not derived from the very bottom, but from the *emulgens ramus*, which conveying the *ſerum* to the reins renders the ſeed more cold and ſerous.

Among the effects are numbred actions, excrements, and habitual accidents.

'Tis obvious and diſcernible to every eye, that by their animal actions males are hotter, they being much ſtronger, and of greater ability to labour, but females dull and ſlow, and not pleaſed but with delicacy. As to the vital actions, 'tis evident that the pulſe beating higher, and reſpiration being more vehement in males then in females, the voice fuller and more intenſe, is a pregnant ground of their greater heat, they are alſo better at natural exerciſe as appears by their excrements.

The excrements of Males are in quantity few, but plentiful in females, as may be inſtanced in their monthly purgations, which are cauſed by the inefficacy of heat to diſcuſſe all that blood which is generated in the Liver. But in Males all are ſo throughly digeſted, that there remains no ſuperfluity.

Laſtly, the habit of the body is a plain demonſtration, that Males are much hotter, for not only their Chin but their whole body is hairy, they are fortified with

a hard and rough skin, they have large and dilated veins, and muscles firm and well cemented, but females are smooth and weak, they have a skin soft to fluitation, and narrower muscles, and vessels.

But here we must not passe without *an Asterisk*, it being worth notice, that the Theoreme expresseth, *that Males are generally the hotter*, because this sex is to be generally considered, and to be understood that for the most part the Males are the hotter, for some females there are, which are of a hot temper, exceeding some cold men, but because this in both is beyond their ordinary constitution, it doth not therefore at all invalidate our assertion.

CHAP. VII.

Of the Tempers of the Seasons of the Year.

The year is quarter'd into four seasons, Spring, Summer, Autumn and Winter.

THese seasons are chiefly father'd upon the Sun, which by his anniversary motion causeth divers mutations in the air. But there are two motions observable in the Sun, *one diurnal* in which is twenty four hours, the limitation of a natural day, being hurryed by the wheeling of the *primum mobile* he perfects his course from East to West; the other *proper*, which is from the rising to the setting, to finish which course, he is allowed the time of 365 dayes, in which space he is a sojourner in the twelve signs of the Zodiack, and fills up a compleat year, and by reason of the turnings and doublings in the Zodiack, his accesse to, and recesse from our Zenith is various, therefore he produces vicissitude of cold and heat, which distinguish the seasons of the year.

The Spring is Hot and Moist.

The Spring begins then to peep forth when the Sun takes possession in the sign Aries, and heates the aire to a mediocrity, which as yet being not well armed accompanies the moisture left by the precedent winter, which by degrees it masters, so that the spring in its vigor is commonly temperate; it symbolizeth with the aire, and with a sanguin and indifferent temper; according to *Hippocrates*, it is the most wholesome of all seasons, and the most fertile, for heat and moisture heightens all things to a vigor and fertility. For though *Hippocrates* in his *Aphorismes* shews us a catalogue of many and dangerous diseases which attend that season, this takes not away the salubrity of it, for it is but an accident or contingency in ill mixt bodies, which in the winter have mustered up a legion of vitiated humors, which are diffused by the succeeding warmth of the spring, and sometimes putrify: but for wholesome and sound constitutions there is no better preservative it keeps them in their proper temper, as representing them, by a lively similitude.

The Summer is Hot and Dry.

Whose original is when the Sun is entertained in the sign Cancer, which then is our near neighbour, and darts his rayes very direct, prolonging the dayes, and producing violent heat, by which the moisture, the relict of the spring, is exiccated, in whose roome succeeds a great drought: it bears a likeness to the Element of Fire, and bilious humor.

The Autumn is Cold and Dry.

The Autumn then comes upon the stage, when the Sun takes in at the sign Libra, then begins the *Æquinoctium*, which is upon this ground called *Autumnal*, as the beginning of the spring the *Vernal Æquinoctium*; the Sun having retreated so farre from us, that it poizeth to an equality the nights and days; the night stealing the proportion from the day, by this recesse of the Sun, coldness invades the aire, which in conjunction with Siccity, the offall of the antecedent Summer, ushers in a temper cold and dry, hence Autumn is in Analogy with the Element of earth and the melancholick humor: Yet because the Sun, doth indifferently exercise his strength, therefore in the vigor of his lustre; *viz.* at noon, the aire is refreshed with warmth, by which meanes this season about the middle of the day is hot enough, but at morning and night cold, when the Sun imprisons his strength, and not seldome in this season, we are sensible of both heat and cold intense enough, which is caused by Siccity, the perfection of the first qualities, but these neutralities in the aire do usually visit us in the company of great and dangerous diseases, as *Hipp.* in his *Aphorismes*.

The Winter is Cold and Moist.

This season starts up when the Sun is a guest to the sign of Capricorne, this introduceth the *winter solstice*, as in the beginning of summer the *summer solstice*: for the Sun giveth back so farre from us, that he casts his rayes very indirectly, and curtales the dayes, but extends the nights, which is the cause of great cold, which singles out moistnesse for its companion, because that the vapors exhaled are not dissipated, but imbodyed by cold into clouds, raine and snow; hence the winter is assimilated to the Element of water, and pituitous humor. *Thus farre of Temperaments.*

The Third Section of Physiology of Humors.

The First CHAPTER.

Of the Nature of Humors.

An Humor is a fluid body, produced in us by the coction of the Aliment, for better nutrition, or other advantage of the body.

THis term *Humor* is used in a double sense; *First*, in its general and usual acception it implies any thing, which is hardly contained by its own, but easily by the limitation of another, whether it be generated in our bodies, or not, and so all liquors are comprehended in the latitude of this understanding. But *Secondly*, to draw it into a lesser circle, to its proper and strict signification known to Physicians, it is taken for liquid bodies, which spring from the second, and third coction, as appears by the definition; in which humor is called *a fluid body*, because as other liquors, it easily diffuseth it self, and transgresseth its own bounds. 'Tis said also *to be generated in us by the coction of the aliment*, to distinguish it from other moistures, which may by divers inlets surprise our bodies without any alteration or change, and that we may know how these humors are generated in our body. For Nature being carefull of the preservation of living creatures, and chiefly of man, invented divers wayes of nourishment furnished with divers qualities, by which they might receive nourishment, and growth, not immediately, but by many preparative mutations; and so the aliments are first grinded in the mouth, then being sent into the stomach, they are confused, concocted and converted into a kind of creamy substance, which is called Chyle: which Chyle being exactly cooked in the stomach is turned out into the intestines, and there the usefull part of it is abstracted from the earthy and useless matter, out of which is generated dung; but the purer part of it is conveyed to the Liver by the help of the Mesaraick veins, in which they are reconcocted and changed, from whence springs the fountaine of blood, which comprehends various differences of humors, of which we shall treat.

CHAP. II.

Of the Differences of Humors.

All Humors are divided into Nutritive and Excrementitious.

Nutritive are those, which have an aptitude to invest themselves in the substance of our bodies.

Which are again subdivided into two, Primary and Secundary.

The Primary are those which are contained in the veins, retaining the impresse of that form which they borrowed from the Liver, and communicate themselves with an indifferency to every member.

THey are called *Primary*, because they are the womb of the *Secundary*, and also because as soon as they are generated in the Liver, they then first entertain the name of humors; for Chyle with the Physicians is never termed an humor. But as long as the veins are the closet of these humors, they alwayes retain the same name and the form received in the Liver, till coursing through every part, they begin to be changed by them, then they reform themselves, and get new names as in its season shall be shewed.

And they are Four; Blood, Flegme, Choler and Melancholy.

The portion of the Chyle which is defecated, streams thorough the channel of the Mesaraick veins to the Liver, by whose heat it is concocted and changed, & partakes somewhat of its nature, acquiring not only a scarlet dy, but a temper resembling that of the Liver: but this substance after its mutation in the liver is called the *Masse of blood* wherewith it abounds, not that it is conflated of that only. For as every Agent though it act in the same method produceth different effects according as the patient lies disposed, as the Sun by the same heat, whitens linnen and browns the skin, hardens dirt and softens wax; so our food being conflated of four Elements, the heat of the Liver which is the efficient in the generation of humors, changes the airy part of the aliment into blood, the fiery into choler, the watry into flegme, the earthy into melancholy. Though it cannot be impugned, but that the efficient conduceth much to the copious production of either humor, for a hotter Liver out of the same aliment makes more choler, then one cold; contrary to which a colder generates flegme more copiously. Yet the excesse can never swel to such a disproportion, but that out of every aliment there will issue alwayes these four humors, though not obliged to a just equality, which naturally ought so to be tempered, that there should be greater plenty of blood, less of flegme, less yet of melancholy, and least of all of choler. But that these four humors are contained in the masse of blood, 'tis evident from the variety of the parts of our body, which differing in temper, cannot all receive nutriment from one and the same humor, for nutriment proceeds only from similitude. And so only considering the parts we may easily passe judgment, *viz.* that the substance of the milt is very like the melancholick humor; of the Lungs resembling the bilious humor; of the Liver the Sanguin, of the brain the pituitous, and so that they attract nutriment from thence.

CHAP.

CHAP. III.

Of Blood properly so called.

Blood properly so called is the more temperate part of the whole masse, inclining to heat and moisture, and painted with red.

THE more temperate part of the Chyle, and indifferent in substance, is converted into blood properly so called, which is of affinity to the nature and temper of the Liver, which being hot and moist communicates its temper to a substance like to it self, and it not only tempers, but dyes it red, in so deep a grain that it outvies the colour of other humors partaking of the same masse, so that the whole masse of humors is vested in red, and in an absolute term embraces the name of blood. Which that it might be plentiful these accessaries are requisite, *viz.* temperate aliment, and of a good juice, the flower of Age, spring time, an hot and moist temper of the Liver.

Though blood proceeds from all aliment, yet some are more, others less copious in the production of it: When therefore all these causes convene, from this concurrence will result a Sanguin Temperament, because blood is very predominant. It is usefull for the nutrition of carnous parts, as of the muscles and bowels which are nourished by blood properly so called. The effect of it is to raise in men hilarity and mirth, a propensity to sports and love, and flourishes them with a lovely colour; because they are well fraught with temperate heat, which is the original of these merry frolicks. As we may take notice that all creatures in the cradle of their Age, are much addicted to hilarity, because that is the furnace of natural heat.

But whatever blood confines it self to the veines, is stockt with many fibres, by the benefit of which it acquireth concretion and assimulation with the parts.

These *Fibres*, a great number of which the blood harbours, are manifestly evident, when the blood is tempered with much water, or stirred with the hand, as may be specified in Swines blood, all the fibres following this agitation that may be an hindrance to concretion; for such is the vertue of these fibres that they presently rally to an unition with the blood which flowes out of the veins, as is manifest in the proposed examples. And by the help of these the blood, being conveyed to divers parts, for the better nutrition is condensed and solidated, so that it may easily be assimilated to the parts, otherwise, if destitute of fibres, it would remain liquid. For it is out of the reach of credit, that *Aristotle's* opinion should hold true, that Harts, Does and Camels want them, but we must apprehend that they have but few, which are sufficient to cause an indifferent concretion. But these fibres are of colour wholly white, representing a nervous substance, from whence we may fetch an opinion, that they derive themselves not from the Liver, but from the ventricle which is wholly nervous, and doth in some manner impart the nature of its substance to the Chyle.

But Blood is two-fold; the one lodged in the Veins, the other in the Arteries.

The venal is more crasse, cold, and ruddy; and designed for the nourishment of parts of a solid substance.

Arterial is thinner, hotter and inclining to yellow, and officious in the nutrition of parts of a spiritous substance.

The blood in the veins is derived immediately from the Liver, which it signifies by a tincture of the nature and temper thereof; and so is colder then the arterial, whose forge is the heart, where it is elaborated to tenuity, and acquires a yellowish colour, by reason of aire confused with it in the left ventricle of the heart, which washes away that rich dye; therefore it is so much hotter then the heart, according to the proportion of that heat, which causeth an excesse in the temper of the heart, in relation to that of the Liver.

A Corollary.

Some have impudence enough to deny, that there is such a thing as blood properly so called, but will needs argue the whole masse of humors to be constituted only of choler, flegme and melancholy, and that the mixtion of these three humors is termed blood; of which assertion they indeavour to make demonstration by the example of milke, which is immediately produced from blood, for in it there are only three homogeneous substances to be found, *viz.* butyrous, serous and caseous, which are correspondent to these three humors. But this opinion is weaken'd by this, that nothing but true blood can paint in red the masse of humors: For choler is yellow, flegme white, and melancholy black. Besides the carnous parts which in our body are many, bearing Analogy in colour and temper to blood, do peculiarly instance that this is the humor which they prey upon. But to the example of milke *I reply*, that it is not necessary that all things should have the same parts as those to whom they owe their generation: for the seed generated by the blood hath only two parts, *viz.* spirit and incrassation. To this may be added, that that example argues rather against the choler than the blood, for butter is Analogous to blood, as hot and moist, as cheese to melancholy, but the serum admits of no such comparison to flegme, but rather to ichors, which are evacuated by Urine and sweat, and obtain the very name of serum.

But especially notice is to be taken of that axiome, upon which we ground, that the resolution of things is into the same masse from which they took their composition, by this is understood only their ultimate resolution into the Elements. For things by a kind of gratitude surrender themselves into the bosome of their first causes: But the Elements are the first bodies ingredient to the composition of all mixt bodies, which fall back again into them, but owe no such duty to their second causes; *viz.* the flesh and bones after the decease of the creature are resolved into the Elements, but not into bread and other aliment, which supplies nutrition to them, or into seed and blood, out of which they were framed in conception.

Chap. IV.

Of Alimentary Flegme.

Alimentary Flegme is the more unconcoct part of the blood, Cold and Moist, almost destitute of tast, or sweetish.

The

THE more cold and moist part of the masse of blood, is called flegme, generated out of the cruder part of the Chyle, hence *Galen* terms it, crude and parboil'd blood, who asserts also that in a famine of blood, this being brought to maturation by a farther coction converts to blood, and that in the very veins by a *Sanguifying* vertue sent to them as Auxiliary from the Liver.

Cold and moist aliments produce a great fertility of it, so Age, winter, and a cold and moist temper of the Liver.

From the winter ariseth cause of doubt, for that our bellies according to *Hippocrates* are hotter in winter by reason they are the randezvouz of the native heat, which in this season concentring there must necessarily be commodious for concoction, and so there will be no plenty of crude humors generated. *To this I oppose*; that flegme is abundantly generated in winter, not in respect of the efficient cause, but of the matter, *viz.* aliments, which in this season are cold, compact, and not easily concocted. Now also the appetite is very vigorous, and makes roome for a large quantity of aliment, which by reason it is so copious cannot be well dress'd, but remains a crude Chyle, which converts into crude blood; for the errour of the first is not amended by the second coction, as *Galen* affirms.

It is usefull for the Nutrition of the Cold and Moist parts.

The brain and the *Spinalis medulla* bear an Analogy to flegme, therefore they are nourished by it, as appears by the customary excretions of the brain. This alimentary flegme is commonly termed pituitous blood, as choler and melancholy bilious and melancholick blood; into which we must make a curious inquiry, lest we in perusing Authors, should be lead into an error, when we find them assert, that all the parts acknowledge their nutrition from the blood.

The effect of it is where it is predominant to induce upon men stupidity, Lazines, Sleepines, Softnes and Whitenes all the body over.

Cold in conjunction with moisture incrassates, and settles the spirits to almost an immobility, from whence these accidents follow.

CHAP. V.

Of Alimentary Choler.

Alimentary Choler is the thinner part of the blood, Hot and Dry, something bitter and yellow.

AS the four humors correspond to the four Elements, so Choler to a fiery nature, generated from the more hot and dry part of the Chyle; having a touch of amaritude, though not so copious as excrementitious choler, for then it would be unfit for nutrition. For it is undoubtedly true, that bitter things afford no nourishment, *viz.* those which excell in amaritude, for hysope, succory, and many other things, which have but a sleight tincture of it, are nutritive. So alimentary choler, having but a smal stock of it, *viz.* so that the parts nauseate it not.

It

It is also potentially not actually dry, because all humors are fluid, and actually moist; yet potentially it causeth dryness, as sea water, or brine may be termed dry.

Hot and Dry aliments, fat and oily, Manly age, Summer season, a Liver of a hot and dry temper causeth it to abound.

It seems averse from Reason, that fat and oily aliments, being hot and moist, and so more accommodate to the production of blood, should be converted into Choler.

To this may be answered, That in their proper temper they are more fit for the generation of blood; but being of a substance easily inflammable, and meeting with bodies prepared and disposed to the production of bilious siccity, they are easily naturalized into Choler: Hence it is customary with Physicians to assert, that sweet things do with little difficulty change into Choler; which is alwaies to be understood of bodies hot and bilious; for in bodies more cold and temperate is rather produced blood, as is evident in Honey and Milk; for Honey for Old men, and Milk for Children is very nutritive, but both in men of full age, or hotter constitutions, are reduced into Choler.

The duty of which is to nourish the similary parts, and to be in place of salt to the blood, which as sawce being pleasant to the parts, causeth in them a greedier appetite to imbibe the blood.

Of the parts which receive nutrition from the bilious blood, the Lungs are esteemed the principal, whose substance being so rare that they can easily entertain the Air, want not much nutriment from the blood.

But the sweetness of the other humors being tempered by a sleight mixture of bilious amaritude, gives a pleasing taste to the whole mass, which makes the parts prey with more delight upon the aliment.

The effect of it is to make men in whom there is plenty of it, ready, watchful, inclined to anger, and lean.

All these are the effects of Calidity and Siccity.

Chap. VI.

Of Alimentary Melancholy.

Alimentary Melancholy is the thicker part of the blood, cold and dry, of a sharp taste, and of colour black.

THE thicker part of the Chyle alters into Melancholy, which is as it were the mud and dregs of the blood, like the lees of wine, which usually repair to the bottome of the tub; it is therefore set in similitude with Earth.

The plenty of it proceeds from crasse and earthy aliment, constant age, autumn and continued anxietie.

It affords nourishment to the parts of a like temper.

Of this nature the Milt is the chief, then the bones, which though not resembling it in colour, are yet of a relative temper, but acquire whiteness by a further coction.

The effect of it is, where it is predominant, to produce fear, sadness, rudeness in carriage, and a black colour.

Obscure

Obscure and dark spirits run through the bodies of melancholy men, which represent sad apparitions to their mind, and introduce dulness.

That assertion of *Aristotle* well known among Physicians, that melancholy men are ingenuous, doth nothing impugne the truth of this, being not to be apprehended of such melancholicks, as are *naturally* so, being of a temper cold and dry, but of those who become so *accidentally*, having been naturally of a sanguin or bilious complexion, but in progresse of time some thinner part of the blood being scorched and incrassated, is ambitious to be naturalized into melancholy; but is much hotter and clearer, for blood is in it self very clear, therefore spirits clear and indifferent hot, thick and consistent, as it were bred out of a crasse humor, being generated out of this humor, are very fit to cause prudence. This then is that melancholick humor which causes ingenuity, invention of Arts and Sciences and excellent skill in tillage, but not that naturall melancholy, which operates stolidity and stupidity, from whence it is denominated *Asinine Melancholy*.

CHAP. VII.

Of the Secundary Humors.

Thus far of the Primary alimentary Humors, the Secundary succeed; and they are so termed, because they do immediatly result from the 1, *and are subservient to some peculiar member.*

THE Primary humors lodged in the veins and honoured with the title of blood, are wafted to every part, that they may be nutritive to them all: but when they begin to be changed by the parts, they entertaine the name of Secundary Humors. Some rather terme them humidities then humors, because part of them fall into the nature of the Substance of the parts rather then of the humors: so that they stand in opposition to the four siccities of the parts proposed by *Galen*, which is not voide of reason. But yet they will admit the name of humors, by reason that they are the immediate consequences of the primary humors, nor are yet true parts.

And they are four; the first is called Unnamed or inbred Humor, the second Dew, the third Glue, the fourth Cambium.

These four secundary are anthenticated by *Avicen. Fen.* 1. *first Can. Doct.* 4. *Cap.* 1. which he spins out of *Galen*, who *in book* 7. *Meth. Cap.* 4. reckons four siccities, contingent to the parts of our body, by reason of the consumption of the four contrary humidities: which humidities are generated by blood, converting (as is before mentioned) into the substance of the parts, to which total conversion are precedent four grand mutations, every of which deserves a peculiar name.

The Unnamed or inbred humor is that, which borders upon the smal veines, and begins to be slightly changed by the particular members.

As soon as the blood is conveyed out of the larger vessels into the more narrow, which nature hath placed in every part, the qualities of that part flow into it, and by this change beginning to invest it self in the nature of the part, it becomes the first of the four Secundary humors, which wanting an imposed name is called *unnamed*, but some moderns have termed it *inbred*.

It is then called Dew, when like Dew it waters the substance of the parts, and is entertained in the smal pores, it is generated out of the Unnamed humor, but not without much alteration, till it is assimilated to the nature of the part.

It is then called Glue, when this rorid humor closes with the parts to an agglutination.

Lastly, it is termed Cambium, when this Glue alters into, and stands in Analogy with the substance of the parts.

The discrimination of these two last humidities is understood, from the difference distinguishing between union and assimilation. This appears by the de-

monstration of most evident examples, for in the Itch, the Leprosy and such like diseases, there is a sticking and agglutination of much humor, yet no assimilation, but corruption by the depraved qualities in it, whence we may conceive the wide difference between union and assimilation.

Chap. VIII.

Of Excrementitious Humors, and first of Excrementitious Choler.

Hitherto of alimentary humors. Excrementitious are those, which are not disposed for nutrition, but are banished and separated from the body.

They are four; Choler Melancholy, Serum and Flegme.

Excrementitious Choler, is an excrement attenuated in the second coction, hot and dry, of colour yellow, of taste bitter, the purgation of which is at the bladder of the Gall.

ALL coctions have their excrements, because all parts of the aliment cannot be fitly designed to nutrition, therefore the useful part is separated from the useless and turned out of doores, so the excrements of the first coction are the dregs which are conveyed thorough the belly. But the excrements of the second Coction are 3, which being referred to the humors, are in this place to be explained.

Now the first excrement of the second coction, is a thin humor hot and dry, and very bitter, therefore of no aptitude for nutrition, it is conveyed to the bladder of the gall partly by the expulsive faculty of the Liver, partly by the attractive of that bladder, which nature hath framed to a familiarity and sympathy with that humor, that it might desire and delight in its company.

It is useful to summon the expulsive faculty of the intestines to her duty, and to scoure the sticking flegme which is apt to adhere to the tunicles of the intestines.

When the felleous bladder hath attracted the choler, and for some space entertained its welcome guest, till being sharpned by this delay, it moves this vessel to an expulsion, and is sent to the *duodenum* by a vessel designed for this office, which is called *porus cholidochus*. Now this choler being brought down to the intestines, by its acrimony, stirrs and moves their expulsive faculty, by which our purgaments are with more ease excluded, which many times by the intermixtion of choler, represent a yellow or reddish tincture. And also the intestines usually abounding with much viscid and sticking flegme, receive this benefit from the choler, that it cuts and purges it away, and so helps its exclusion.

It is differenced two wayes, either as it confines it self to its natural constitution, or as it dilates it self beyond the proportion and allowance of nature.

When it is content with its natural limits it is two-fold, Yellow and Pale.

Yellow is that which is contained in the bladder, clean and unmixt, which was now mentioned. Pale is when a Serous humor is mixed with the Yellow.

Serum mingled with choler, washes away its yellowness, and induceth paleness, cold and moisture.

When it is in excesse beyond the bounds of nature, the species *of it are four,* Vitelline, Porraceous, Eruginous *and* Glasteous.

The Vitelline *in colour and consistency is like the yolk of raw eggs, hot to a higher degree than the yellow, and is produced from it by the alteration and incrassation of vehement heat.*

When by the acrimony of preternatural heat the natural choler is scorch'd, its thinner parts are dispersed; by which means it is incrassated, and acquires a deeper grain, and more intense heat. For we must shut our eares against *Avicenna*, who asserts that the transmutation of yellow choler into Vitelline is caused by the admixtion of flegme; for by this reason it would become more pallid and cold.

Porraceous *Choler, representing the colour of a Leeke, is hotter then the Vitelline, and is commonly bred in the ventricle, being produced by impure aliments.* This

This is green like a leeke, which tincture it receives from bad aliments, such as garlicke, onions, leekes, watercresses, colewortes, and the like; which by reason of the disability in the ventricle to concoct them, and naturalize them to Chyle, are parch'd, yet generally retaining their own hue, from whence this is termed porraceous choler. Here it is observable, that this happens not but in very hot stomachs; It is also sometimes generated in other parts of our body, out of the vitelline choler over-heated, whence it cloths it self in green.

Erruginous choler, being of the colour of rust, is produced by a more parching heat.

While the porraceous choler delayes its remove out of the ventricle, being aduſt by preternatural and intense heat, it alters into eruginous choler. The seat sometimes of its generation is the veins, by heat very intense, which scorches the aforementioned *species* of choler, and is very sharp and malignant; hence eruginous dejections are counted by *Hippocraies* deadly.

Glasteous choler, assimilated in colour to wood, is produced from the rest by a greater inflammation, and is more dangerous then all of them.

This is nearly allied to black choler, being of a colour more obscure and dul then the rest, which is caused by a greater torrefaction, therefore it is more dangerous and pernicious then the other.

A COROLLARY.

Galen in his Treatise *of black Choler*, mentions red choler, from whence it seems there must be a larger Catalogue of the *species* of choler, but this is not properly choler but the feculency of the blood, as *Galen* himself explaines *comment* 5. *in 6. Epid.*

CHAP. IX.

Of Excrementitious Melancholy.

Excrementitious Melancholy is a crasse excrement of the second coction, cold and dry, of colour black, of taste sharp, which is purged out at the Milt.

THat part of the Chyle which is more crasse and feculent, so that it is beyond the art of the Liver to change it into alimentary substance, is secluded from the masse of blood, that that may not be infected with the least adhesion of impurity; which crasse and earthy matter is termed excrementitious melancholy, and that the expurgation thereof may be the more commodious, the good Artist nature contrived a peculiar part for it, nearly related in likeness to this humor, which therefore it attracts to it self, and imprisons in its soft and loose substance; but in the interim, being solicitous for its own nourishment, it separates the melancholick blood confused with it, for that purpose and assimilates it to it self.

It is helpfull to the coction of the Stomack, and excites in it a natural appetency.

When this humor hath been long harboured in the milt, and growes burdensome to it, its baniſhed to the ventricle, by a paſſage whoſe extent is to the bottom of it, which is termed the ſhort veſſel. It is not wholly uſeles, but helps the coction and retention of the ventricle, *as Galen, 5. of the uſe of parts*. For it contracts the ventricle, and collects the aliment into a narrower circumference, cauſing retention till it be concocted, for this humor is ſomething aſtrictive. *Avicenna* is of opinion that it moves a natural appetency by that acidity which it carries along with it, as all acide things do the like; hence a cuſtome is derived to preſent firſt at the Table vinegar-cates to rouze the appetite. This is the reaſon that melancholick men have craving ſtomacks, becauſe of the plentifull effuſion of this humor into the ventricle.

We may conjecture *Galen* to have been of this opinion, who in his *firſt booke of the cauſes of Symptomes*, aſſerts this doglike appetite to proceed from the plenty of acide juices generated in the ventricle, or flowing into the orifice of it from ſome other place. If therefore melancholick juyce which is acide, being too plentifull and overflowing the bancks of nature, cauſeth hunger preternatural, it is without exception true, that that moderate one which is content with the limitation of nature, ſhould move natural hunger.

Here ſome may take occaſion *to object*, That flegme being acide excites a canine appetite, no leſſe than melancholy, therefore natural hunger may be the effect of it, when it exceeds not a moderate proportion. *I Anſwer*, The conſequence is weak, becauſe acide flegm is alwayes preternatural, and the effect of a diſeaſe; but melancholy is natural, being by the operation of nature daily unloaded in the ſtomach, therefore it is efficacious in natural productions; ſo is not acide flegme, nor an over-repleat or morbous melancholy, which being preternatural, can only produce preternatural hunger. Beſides this the melancholick humor affords other aſſiſtance to the coction and appetency of food, *viz.* as it helps their diſſolution, as we perceive all acide things do, as vineger, the diſſolution of Stones by the juyce of limmons, and rebellious metals by the ſpirits of Vitriol, Nitre, and Sulphur. I have treated more at large of theſe *in my Medicinal praxis, Chapter of offended concoction.*

But when excrementitious melancholy is preternatural, it admits the term of black choler, which is very hot, and acrimonious.

Black choler is the moſt pernicious of all humors, which is alwayes preternatural, enemy to all the parts of the body, and plotting our deſtruction, corroding, exulcerating, and ſcorching the parts to which it adheres, by reaſon of its extraordinary acrimony: If it be powred upon the earth, like the moſt ſharp vineger, or *aqua fortis*, it ferments it, and by boiling inflateth bubbles. It is generated from the intemperate heat of the parts, which inflames to aſhes the juyce contained in them, or from a putredinous heat in the humors, the force of which cauſing a conſumption in the more thin and humid parts, the more groſſe remain as aduſt and incinerated dreggs. But this incineration cannot be ſo unnatural in the humors, as to deprive them of a fluid conſiſtency and the proper form of humors.

But this black Choler is differenced four wayes, extracted from the differences of its cauſes, viz. as it is generated out of Melancholy, Choler, Blood, or ſalt Flegme.

The *Firſt* ſpecies of black Choler is produced from the putrefaction and aduſti-

on

on of natural melancholy, and is different from it, as dregs burnt from unburnt, firebrands from coales, red hot Iron from cold. The *Second* proceeds from yellow choler much scorched, for as from a lesse combustion the Vitelline, Porraceous, Eruginous, and Glasteous; so from a more fervent is this production of black choler, threatning more danger then al the rest, which is really that which excommunicates flies, and fermentates the Earth. The *Third* issues from an extreme putrefaction or exustion of blood; for then the more subtile parts of it are converted into yellow choler, the more grosse into black, if the adustion be vehement; otherwise it abhorrs the nature of this noisome humor, and only alters into a melancholy, cold and dry. But when by an intense heat it is heightned to ignition retaining very *Empyreuma* of heat, it is changed into the true nature of black choler, yet it is more candid then the rest, as often remembring its former nature. But that there is black choler may be demonstrated in carbunculous tumors, which are caused by thick and hot blood, and often become true Cancers. The *Fourth* and last proceeds from salt Flegme, which by a long continued scorching becomes so biting and infestious that it seems to be very near allied to black choler; though it be very seldome reckoned with the species of black choler, and many do obstinately contend that there is no such thing: For flegme being white, cannot discolour it self into black, unles it be by the mediation of other colours, as yellow, green, and the rest: Besides, if the flegme be exust, the more thin parts of it will suffer a resolution, but the thicker converted into a Limy substance, which usually retains its whiteness. And it is thought that salt flegme, having been incensed by a vehement combustion, obtains such a degree of malignancy and force of erosion, that as to its qualities, it is nothing different from black choler; but as to the whiteness of it, it is not absurd to affirm, that it may sometimes convert into black, in a violent and unequal ustion, by the permistion of smoak and steams: as we see the whitest wood, to be immediately changed into coales, but when it is easily concocted and by degrees, as when it becomes a Limy substance, then it retains its colour.

CHAP. X.

Of Serum.

Serum is a thin and watery excrement of the second concoction, purged out partly by Urine, partly by Sweat.

THE concoction of aliments is executed by elixation, therefore as in artificial elixations much humidity is very requisite, lest things should be rather roasted then boyled, so in natural concoctions the aliments must be entertained in abundance of moisture, which is that, which about feeding time we quaffe in large proportions, and this taplash, is so mingled with the meat in the ventricle, that they are consubstantiated, but are so thin that they represent milk or creame, which is therefore termed Chyle, that is, juyce: which is absolutely necessary that the aliments being prepared by that first coction may passe freely thorough those narrow veines, which usually conduct them to the Liver, and also those

ſmal veines which are diſperſed thorough the ſubſtance of the Liver. But when the Liver hath diſcharged its duty in ſanguifying, there is not further neceſſity for ſo much moiſture, therefore nature ſegregates the greater part of it, which it hath deſigned to be attracted by the Reins, and from thence is excluded to the bladder, where it is called Urine, but before while it confines it ſelf to the veines it is called Serum. Part of which remaining ſtill in the veines, is confuſed with the maſſe of blood, to be the vehicle of the humors, which being made more thin and fluid, may have an eaſier acceſſe to every particle of our body; but when this portion of Serum hath performed its office, part of it retires to the Reins, and accompanies the other Urine, part inclines to the bulk of the body, and is purged by ſweat.

The office of it is, to be a conduct to the alible humors, for their eaſier tranſmigration thorough the body.

It is called to this duty as long as it is lodged in the veins: but when it hath broke up houſe there, it is uſeleſs in the body, as choler, and melancholy.

The differences of it are four, viz. *ſanguinious, bilious, pituitous, and melancholick.*

Every humor hath its Serum properly and peculiarly appertaining to it, and aſſimilated to its proper nature and temper; ſo the Serum of the blood, is held to be hot, moiſt and ſomewhat red; the Serum of choler hot, dry, and ſomewhat yellow; the Serum of flegme cold, moiſt, and ſomewhat white; and the Serum of melancholy cold, dry, and of colour dark.

Chap. XI.

Of Excrementitious Flegme.

Excrementitious flegme is an excrement of the third concoction, Cold and Moiſt, of colour white, as to the taſte inſipid, or ſomething ſweat, generated in divers parts, but principally in the brain.

PArts of a cold and moiſt temper, derive their nutrition from pituitous blood, from whence proceed many excrements, cauſed either by the coldneſs of the part it ſelf unapt to concoct perfectly, or by the humor it ſelf, which being the more crude part of the blood, is of a difficult concoction, and a great part of it converts into excrements. Which is very evident in the brain, for that copiouſly gathers excrementitious flegme, which is purged out of the mouth and noſe. But the brain collects not this flegme, ſolely by the concoction of its proper aliment, but by reaſon of its advanced ſituation, which is the cauſe that many vapors from the ventricle, Liver and other bowels make upward to the head, and by the frigidity of the brain are condenſed into a wateriſh matter, which is the original of this flegme. Hence by reaſon of the copiouſneſs of flegme congregated in the brain theſe two wayes, *Hippocrates* and other Phyſicians have termed the braine, *The Metropolis of Flegme, and Author of all defluxions.*

It

It is differenced by the taste and consistency of it.

In relation to the tast it is four-fold, Insipid, Sweet, Acide and salt.

Insipid proceedes from moderate cold, which causeth no tast.

This is the most natural, being an excretion in well disposed bodies conveyed away by the spittle.

The Sweet is produced from the insipid by a smal alteration of heat.

When the insipid is concocted by a moderate heat, it is sweetned, for sweetness is the produce of heat: but yet hence we must not inferre that sweet flegme is hot; because indeed an intense sweetness signifies heat, but not a sleight and moderate one; so fruit and milk of a cold temper, yet are much sweeter then any flegme.

The Acide is caused by intense cold inducing Acidity.

When the smal heat of the flegme is extinguished, or dissipated, the necessary consequence is acidity: no otherwise then as the juyces of many fruites meanly hot, being infrigidated, become easily acide; which fares not so with hotter, which do usually retain their soundnesse longer; as appears by wine.

Salt Flegme is produced either by putrefaction, or the permixtion of salt serous moisture. As Galen *in* Book 2. of the diff. feb. cap. 5.

It becomes salt by putrefaction, because when putrefaction makes a separation between the siccity, and humidity, and that siccity being parched by a putredinous heat, falleth again into conjunction with the humid substance, it causeth a salt taste. But it proceeds from the permixtion of salt serous humidity, which being too much brin'd by intense heat, is mingled with the sweet flegme; but the serous humidity becomes salt, when the action of heat upon it produceth scorched vapours, which by permistion with it cause saltnesse.

Observe that these two *species* of flegme, *viz.* the acide and salt are preternatural, but the sweet and insipid natural.

As to its consistency, it is also four-fold, Thin, Thick, Vitreous and Gypseous.

The Thin is of a watery consistency, very fluid and easily diffusing it self into divers parts.

Such is that which distilles from the brain thorough the nose, and flowes thorough the mouth, and is effused also in many parts, thorough the middle intervals of the muscles.

Thick is when this thin hath acquired incrassation and clammines̄e by heat.

The heat by resolution incrassates the thinner parts, whence this flegme being gluish, is properly called *Snot*.

Vitreous flegme is still thick, but transparent as liquefied glasse, or the white of a raw Egge.

It is a sturdy doubt, and resolved to my knowledg, by no Auther, why *vitreous flegme*, and that which is termed *crasse*, are for the most part equally crasse, yet one is very transparent and diaphanous, the other very obscure. This in my opinion, proceeds from the diversity of the efficient cause, which of crasse flegme is heat, but of the vitreous, cold: In the crasse the heat resolves the thinner, more airy and wateris̄h parts, which cause perspicuity, hence it is clouded with opacity; but in the vitreous, being incrassated by cold, not by heat, while it is so condensed nothing is resolved, but the diaphanous parts remain, from whence it seems transparent; as is manifest in ice.

But it will be objected; That flegme cannot acquire such a degree of cold in our body, that by the force of it, it may be condensed and incrassated, all our body being actually hot; therefore whatsoever is cold, is necessarily heated by the part in which it is contained. *To this I Answer*, That that flegme, to which the vitreous

owes

owes its production, is exceedingly crude, and out-vying the strength of nature, therefore it is banish'd her dominious as contumacions and insuperable, and remised to its proper nature, *viz.* coldness, communicated to it by water, and invincible by the weak heat of the parts in which it is contained, as the intestines, which are the head quarters of this vitreous flegme, and doth not seldome torture them with most painfull fits of the Collick, for by its glewy nature adhering to the intestines, by its cold it bites and nips them, for coldness is biting, according to *Hipp.* it is cold to such extremity, that the expurgation of it is actually cold, by the testimony of *Galen* by a near experiment in himself, as in his 4. *book of affected parts.*

Gypseous flegme is the production of crasse flegme, emulating Lime or a stone almost in hardnesse.

This rejects the name of humor, being consolidated; therefore improperly placed in the classe of humors. It proceeds from heat pillaging all the humid parts, so that there is nothing left but earthy parts, which are indurated into a Tophaceous matter, almost resembling lime, this often perplexeth the joints causing the knotty Gout.

The Fourth Section of Physiology. Of the Spirits and innate Heat.

The First Chapter.

Of the Nature of Spirits.

Thus much of the Humors: the Treatise of Spirits succeeds, which are generated out of them, but chiefly out of Blood.

THE Spirits of our bodies being of substance so thin, that they are imperceptible to the quickest glance of sense; and by this means reason only can confirm us in the truth of their existence: it will not be amisse therefore to inform, that our bodies have such attendents, before their nature and essence be proposed;

First, Therefore the context in *Hippocrates*, 6. *Epid. sect.* 8. is very convincing, where he reckons three things which constitute the composition of our body, *viz.* things *containing*, *contained*, *and causing motion*; by the containing, he signifies the parts, by the contained the humors, by those that cause motion the spirits, according to the explanation of *Galen* himself, for such is the tenuity and nobility of the spirits, that with wonderfull swiftnesse they can shoot themselves to any place, and insinuate themselves into all the parts of the body.

Secondly, *Platonicks* do thus demonstrate the necessity of spirits; nature doth not usually joine two contraries or things of wide distance without the help of a *medium*, but the soul and body differ in the whole latitude of their *genus*, for the soul is incorporeal, and immortal, but the body corporeal, frail and mortal, therefore such a dissiliency in natures cannot be forced to unition but by some *medium* and common obligation, leaning as it were to both natures; such are the spirits, which indeed are material, but in tenuity ambitious of the nature of things immaterial.

Thirdly,

Thirdly, This appears by prolifical seed, which is wholly spumous, and inflated with spirits, which disappearing leave nothing but a waterish and unfruitful liquor.

Fourthly, We are nourished by the same things of which we are conflated but attraction of breath or aire is necessary to our conservation; therefore we comprehend in us some such substance.

Lastly, This is evident by those great and empty cavities, which are found in the ventricles of the brain, and arteries of men deceased, which are observed in the living swelled to a palpitation, which clearly convinceth, that those vacuities could not be repleat with any other thing then such spirits.

But a Spirit is a substance thin, clear and etherial, proceeding from the exhalation of pure blood, and the inspiration of aire, necessary for the due performance of all duties the body is engaged to.

It is called *a thin substance*, because with incredible subtility and celerity it penetrates and courses thorough the whole bulk of the body, and steals into the narrowest pores of the least particles and intervals of the muscles: it is called clear, and bright, not according to the vulgar opinion (as *Argenterius* fansies) but because it excels in splendor and perspicuity, which is easily seen in the observation of the eye, the ball of which is very clear, and we may spin an argument for the probation of it out of this, that when some vapours of the melancholick humor, or of over-swelling in drunken men, are predominant, the mind is in a present perturbation, by reason of the dulness of these fogs which suffocate the spirits. And of this *Avicenna*'s demonstration is beyond all exception, *because*, saith he, *our soul* (which transacts every thing by her servants the spirits) *loves light and no darkness, and the spirits do their duty with much more alacrity, in a serene then in a cloudy day*; hence it is plain, that they are excited by similitude. They are also called *Ætherial*, because the matter of them is by long elaboration so defecated, that it stands in competition with that higher Element, which is next neighbour to the celestial bodies, and is called the Element of fire, or etherial.

But that the spirits start out of the permixtion of blood and aire, shall appear in the explication of their differences.

The uses of them are declared in the end, for the soul cannot in the least operate upon the body without the officiousness of the spirits, because they have the honour to be immediately and principally subservient to her.

CHAP. II.

Of the Differences of Spirits.

Spirits are two-fold; Inbred and Adventitious. Inbred is the relict of the first principles in every part.

IT is called *inbred*, *innate*, or *implanted*, according to the Greek *Connate*, but while our parts are composed out of the first principles of our generation, *viz.* seed and blood, that spiritous substance which is contained in the seed constitutes the inbred spirit. But this reason convinceth that this spirit is communicated to every part, because the adventitious cannot be brought forth without the midwifery

of this, every production being like to its Author. And also the prolifical seed issuing from every part argues that a spiritous matter is derived from every part, from the sound parts sound, from morbous parts morbous, which in the issue represent their dispositions.

Adventitious is that which flowes, and is sent in from some other place for the nutrition and conservation of the Inbred.

The Inbred spirit continually laborious in the performance of the functions of the parts would easily be consumed, unlesse it were preserved and refreshed by the continual influence of this stranger; therefore nature hath contrived some parts, which should be the forge of great plenty of spirits, which by their allotted courses, influx into all the parts of the body, to defend the inbred spirit.

This spirit is three-fold; Natural, Vital *and* Animal; *The Natural is produced in the Liver, out of the thinner part of Blood tempered with a little Aire, whose influence is thorough the veins into the whole body, for the due exercise of the natural faculties.*

This Natural spirit hath caused much dissention among Authors because some upon the ground of pregnant reasons, deny nature the assistance of any such spirit.

First, Because *Galen* was not resolved of it, *book* 12. *method. cap.* 5. where he thus discourseth, *If any spirit be natural, it is contained in the Liver as its fountain, and in the veins as its instruments*: And *his first book of parts affected, last chap.* the natural faculties are by him differenced from the animal by this distinction, that the natural are implanted in the parts, but the animal are sent in from some other principle, as light from the Sun: whence it happens that animal actions do not seldome perish in the parts, though they receive no hurt, but only the principle of them, but the natural are never hurt, while the parts are free from harme.

Secondly, Aire is the matter of all spirits, for out of it and clear exhalations from the blood, they are produced. But there is no passage thorough which the air may be conveyed to the Liver. Therefore that can be no seat for the generation of spirits.

Thirdly, The spirits are according to *Hippocrates* the causers of motion, therefore if the veins harbour spirits they should beat no lesse then the Arteries.

But the principal argument to confirme the assertion of natural spirits is this; Three actions specifically distinct are exercised in our bodies, *viz.* Animal, Vital, and Natural; but the exercise of action is the duty of the spirits, as *Galen* very often affirms; therefore we must necessarily constitute three spirits differing in *species*, *viz.* the Animal, Vital and Natural. If you *object*, that natural actions are exercised by the inbred spirits. *I Answer*, that the adventitious are absolutely necessary for conservation of the inbred, which bear a similitude of nature to them, the production of which is acknowledged from the Liver.

I Oppose therefore to the *first* argument, established by the authority of *Galen* in opposition to this; that the rudeness, obscurity, and non-purity of this spirit created sometimes in *Galen* a doubt, it being more caliginous and terrestrial, then the Vital, and proportioned to those actions which it is designed to performe. But though the faculties be implanted in the parts, they want the help of the adventitious spirits for exercise, and to hinder the dissipation of the implanted spirits.

To *the second I Answer*, That the natural spirits want but little aire, which by insensible transpiration, by the Arteries knitted to the veins of the Liver, and by the continual ventilation of the *Diaphragma* are easily imparted to the Liver.

To *the third I Answer*, That the beating of the Arteries is not caused by the spirits,

ſpirits, but by a pulſifick vertue communicated to them from the heart. But the Liver being not endowed with ſuch a faculty, the veins which have a dependence upon it, do not beat, for it is not neceſſary, becauſe the blood and natural ſpirits want no ſuch ventilation, but are well enough preſerved only by tranſpiration.

The Vital is generated in the heart, by the natural ſpirit, and the attraction of the air by inſpiration, and by the help of the Arteries flowes into the whole body, for the preſervation of natural heat, and defence of life.

It ſtands better with reaſon, that the vital ſpirits, which ſurpaſſe in tenuity, ſhould be generated out of that ſpiritous ſubſtance prepared and attenuated in the Liver, rather then out of the venal blood only, which is deſtitute of ſpirits, for as the animal owes its production to the vital, ſo it may be ſuppoſed the vital is related to the natural. Therefore that natural ſpirit being conveyed to the left cavity of the heart with the purer part of the blood is intermixed with aire, arriving thither by the inſpiration of the Lungs thorough the venal artery, whence by the inbred force of the heart and innate heat by joynt elaboration the vitall ſpirits are generated, which being after tranſported to the Arteries, are conducted thorough the whole body, that they may nouriſh and preſerve the whole body by their vigorous heat.

The Animal is generated in the brain by the concurrence of the Vital, and the aire attracted by the mouth and noſtrils, whoſe influence on the whole body is by the nerves, for the exerciſe of animal functions.

A portion of the vital ſpirit is conducted to the brain by the Arterie *Carotides*, whoſe courſe is thorough the neck: and in the ventricles of the brain is mingled with air, attracted thorough the high-way of the mouth and noſtrils, where by the idioſincracy of the brain it is changed, and acquires a new form, and becomes Animal ſpirit fit for the performance of animal actions, for during its continuance in the veins, it is the principal officer and chief inſtrument in the execution of theſe actions, but while it flowes thorough the nerves into the various parts of the body, it compleates and perfects the motion of the ſenſes.

A COROLLARY.

THE reaſons following will ſufficiently evince, that there is no Animal ſpirit:

Firſt, The cold and moiſt ſubſtance of the brain cannot be convenient for the generation of ſpirits, which are hot and thin; ſince there muſt neceſſarily be a relation of ſimilitude in all productions.

Secondly, All vapors which aſcend to the brain, by the frigidity of it, are condenſed to a concretion, and turned into water; Therefore if the ſpirits, which are of a like nature, were contained in the brain, they would in like manner be infrigidated to a concretion.

Thirdly, If there were ſuch ſpirits, their chief place of reſidence would be the ventricles of the brain, but that is impoſſible, becauſe thoſe ventricles are continually feculent with excrements, to the expurgation of which they are deſigned, but they would infect the ſpirits.

Fourthly, If theſe ſpirits were lodged in theſe ventricles of the brain, they would eaſily make eſcape thorough thoſe paſſages which are appointed for the evacuation of the excrements.

Fiftly, If these spirits were housed in the brain, sensation and cogitation would alwayes be quick, because the faculties of the soul give constant attendance, and are alwayes in action, till they want instruments.

To *the first I Answer*, That the brain is not in such a measure cold, but that it is actually hot, which heat is sufficient for the generation of the Animal spirits, which are not simply the production of heat, but of the very idiosyncracy of the brain, which must necessarily incline to coldness, that the heat of the vital spirits might be allayed, that our cogitations and sensations may be constant and firm, which otherwise those incendiaries the spirits, would blow up to a deliration and madness, as we see in men phrenetical.

To *the second I Answer*, That the spirits are not concrete in the brain, as the vapors, because they are not the chief constitutions of a waterish nature, but rather of Aery, or Æthereal one.

To *the third*, with *Aristotles* consent, 2. *of the soul chap.* 8. *I Answer*, That Nature can imploy the same thing in the business of divers offices, as the tongue primarily for the taste, secundarily for speech: the nostrils primarily for smel, and inspiration of aire, but secundarily for the conveying away of mucous flegme: so the ventricles of the brain are primarily contrived for the generation of spirits; secundarily for the expurgation of excrements, but these excrements by reason of their continual purging and effluxion cannot be infectious to the Animal spirits, as long as the brain squares to Nature.

To *the fourth I oppose*, That the spirits break not forth thorough those channels in which the excrements stream, being retained by the friendly nature of the part and familiarity of the substance.

To *the fifth I Answer*, That the concurrence of three things cause cogitation, Faculty, Instrument, and Object; all which being supplyed, the mind operates indefatigably: for not only waking, but often also sleeping we exercise our cogitations, because we use the object of the internal senses, but both failing, cogitation ceaseth: as also in default of the Instrument, *viz.* Animal spirit, which is tyred with many operations; whence the careful ingeniety of nature, hath provided sleep for living creatures, by the benefit of which, as it were by a truce, the Animal actions keep high Holy-day, and the spirits are refreshed.

Chap. III.

Of Innate Heat.

Innate Heat is the primigenious moisture, diffused thorough all the parts of the body, and every where replete with implanted spirit and native Heat.

Heat is a concrete term, which signifies not only an accident, but the subject to which it inheres. There are therefore three things concurring to the constitution of innate heat; *viz.* primigenious moisture, implanted spirit, and native heat; in the spirit is constant heat, but this implanted spirit is alwayes in conjunction with this primigenious moisture and confused with it, and from them so united, results

results the innate heat. The true understanding therefore of these three will cause an easy knowledg of the nature of innate heat, and the implanted spirit was at large explained before, the primigenious moisture and native heat only rest for explication.

Primigenious moisture is a humid, fat, and oily substance diffused thorough all the body, by preying on which as its proper food the native heat is preserved.

Aristotle defines life to be the dwelling of native heat in certain moisture, that therefore this heat, the Author and preserver of life, may long continue in the parts, it wants certain fuel, no lesse than our fire, to keep it from extinction. But moisture being two-fold in our body, one watterish, the other fat and aiery, this vivifying heat cannot be fuelled, by the watterish, but by the fat and aiery moisture, as a lampe or candle lighted is not inflamed by watterish, but oily and pinguedinous liquor, or some such like substance: so Trees and other Plants, which abound in this fat substance, are of long continuance, and excellent fuel, when they are burned; But on the other side green wood, in which watterish humidity is as copious, or wood of too much growth, in which this fat humidity is exsiccated, make no good fire. But when we discourse of oily and fat substance, we understand not that fat or grease which most commonly in women or idlers is collected about the skin and membranes, but hardly comes nigh the substance of the bones, nerves and bowels, for those are not the subjects of vital heat, but are rather by their over-growth an impediment to actions. But this native and genital humidity, according to its copiousnes is more useful and commodious to the exercise of all functions and the prolongation of life.

It derives its original from the first principles of our generation, viz. *from the seed, and maternal blood.*

The first upstart of our generation is abundantly furnished with this radical moisture; hence it is, that when this is substantialized into the parts of our body, the whole masse in the preface of life is very well stock'd with this moisture, which afterward by the continual action of the native heat is by degrees as our Age posts away wasted and dryed, till it arrives to the last stage of exsiccation, whose consequence is the extremity of Age, and natural death.

But the fat and oleous moisture of Aliments is the cause of preservation.

While this moisture continually suffers under the insulting activity of heat, it would quickly fall into a consumption, unlesse the losse were recompenced by the accesse of new aliment: At the charge of this reparation are fit aliments, prepared by divers coctions, in which we find two-fold moisture, one fat and aiery near related to the nature of the primigenious moisture, and makes up the losse of it, the other watterish, keeping in repair the common humidity of the parts, which breaks the force of heat, lest it should consume this fat and aiery moisture, as appears in Sugar, Honey, or Oyle, when they are boiling, that the water mixt with them encounters the forces of the external fire, and is vanquished, when they remain in their integrity or with smal diminution. And though the loss caused by heat is continually repaired by new aliment, yet that which is acquired in the place of what is lost, is much worse, and more impure, and deficient both in quantity and quality, otherwise it were possible for life to be stretch'd to infinity, but this primigenious moisture by degrees decaying, and it being impossible to equalize this diminution with any aliment, it inferres an absolute necessity of death.

Native heat is a quality proper and familiar to all living creatures, by the help of which they live and act.

It is in our bodies twofold, one the consequent of the first mixtion of the body and parts, which after the destruction of the creature removes not, as long as mixtion keeps its dwelling, which is made out of the foure Elements guarded with the retinue of their qualities; the other proper onely to living creatures, termed Vivifical, because by it, as long as it is our gueſt, we obtain the advantage of nutrition, growth, conservation and life; whence *Aristotle* defines Life, as is before mentioned, the conservation of this heat in certain moisture.

It is derived from the first principles, as is the primigenious moisture. The first principles of generation, seed especially, is well fraught with many spirits, and much heat; hence this heat in our first conception exactly commensurates all the parts, and as long as it sojourns with us, afterward increaseth and preserveth them.

Conservation proceeds from the primigenious moisture, by the ambiency of air, and influence of heat.

The primigenious moisture is the subject of native heat, and its ordinary fare, which it continually devours for its own safety, as a Lamp alwayes needs Oyl for its conservation; and Fire, the continual addition of Fuel; of which, as plenty causeth the inflammation to rise higher, and withdrawing it a diminution, so native heat is increased or diminished according to the proportion of the primigenious moisture: But, as is before alledged, this moisture never increasing, but wasting from the very Prologue of our life, it happens, that the heat also is perpetually diminished to the Epilogue of our life. And as our Fires lack not fuel alone for their preservation, but also the kind embraces of Air, by which they may be refreshed to refocillation; for being confined to a narrow circumscription, though they have sufficient fuel, yet they are suffocated; which is evident in Medical Cupping-glasses: So our native heat wants the ambient air, for commodious eventilation. But this air by the benefit of the Lungs is conducted to the Heart, which is the principal furnace of heat, but to other parts by insensible transpiration; by the defect of which the heat is immediately suffocated, as appears in Suspension.

But this native heat being weak in most parts of our body, and so easily obnoxious to extinction, Nature hath so provided, that by the continual influence of heat it may be nourished and sustained. Hence Physicians divide Heat into two parts, *viz.* implanted, and adventitious. The adventitious flows in from the two fountains of heat, *viz.* the Heart and Liver, in company of the spirits and blood.

A Corollary.

LEarned *Fernelius* was so transported in admiration of the noble effects of this native heat, that he was of opinion that it was to be struck out of the number of Elementary qualities, as being of a higher extract, and wholly divine and heavenly; which lest he should seem an indeliberate babler, he endevours to evince by the following reasons;

First, All action depends upon a predominant quality, but there are in Nature examples of many Plants, as Poppy, Hemlock, Mandrakes; and of Animals, as the Salamander, which is thought to be cold in the fourth degree, yet they live, and heat is the cause of life; it is therefore necessary to constitute another heat, differing from the Elementary, (which in them is very weak) by the help of which they live, and exercise their actions. *Secondly,*

Secondly, If Elementary heat caused life, Brimstone, Arsenick, and such like things, which are intensely hot, would chiefly live; but they live not, because they are destitute of this celestial and vivifying heat; so cadaverous reliques retain Elementary heat, yet live not.

Thirdly, If our heat were Elementary, it would admit of no contrary Elementary heat, as that of a Feaver, which most of all dissolves it.

Fourthly, *Fernelius* grounds this assertion upon the authority of *Aristotle*, *Book 2. of the Gener. of Anim. Chap. 3.* where he affirms, That native heat is not of an igneous, but some more divine nature, *correspondent in proportion to the Element of the Stars.*

But though this opinion is grounded upon the invention of a most ingenious and excellent Artist, we cannot betray our reason to it by a quiet assent; for the species of the qualities of our bodies are not without the command of necessity to be multiplyed; our judgement therefore is, that native heat is wholly of an Elementary nature, as we shall prove by the following arguments:

First, Celestial bodies have not the first qualities, for then they would be corruptible, for all corruption depends upon the qualities; so the Philosophers prove the Heavens incorruptible, because they have no qualities. So they argue the Sun to have no heat in it, but to produce it in these inferiour bodies energetically and virtually, *viz.* by motion, light, and influence.

Secondly, If native heat were celestial, it would abhor a contrary, according to the sense of *Fernelius* himself. But Elementary cold hath a contrary, for the extremity of cold sometimes causeth death, by the extinction of native heat; therefore it is not celestial.

Thirdly, If it were celestial, it would want no fuel to prey on; and if it wanted, it could not be proportioned to it in our body, for Celestial cannot be nourished by Elementary. To this *is opposed*, That this heat, though it be celestial, is by a familiarity with elementary heats, changed as it were into elementary, or at least models it self into an elementary fashion; which seems not satisfactory, because celestials receive the impress of no passion from elementaries, it is not possible their nature should be so inverted, as to savour of the conditions of things elementary.

Fourthly, Native heat derives its original from seed, and seed from blood and spirits, which are also the production of blood; but the blood is elementary, therefore by consequence native heat.

The Arguments of *Fernelius*, though they represent some truth, yet may be easily thus resolved by us.

To the first I answer, That heat in a living body is twofold; one as the body is mixt, the other as it is living; as mixt, it hath the foure first qualities tempered; and so only potential heat, mixt bodies inanimate affecting not the touch with heat; as living, it hath actual heat, by the help of which it exercises the functions of life; and this heat, though it be no ingredient of mixtion, and though its operations are performed in a different manner from the operations of mixt heat, yet it is not distinguished from it specifically, but onely numerically; as if Pepper be heated in the fire, that acquired actual heat, differs from the heat produced by mixtion, yet both are elementary.

To the second I reply, That Brimstone, Arsenick, and such like, live not through the defect of a soul, which is the true and principal Author of life, whereof heat is but onely the instrument; but the instrumental cause acts nothing of it self but at the command of the principal; though that heat proceeding from mixtion, as

before

before is said, concurs not to the operations of life, but onely the living heat, of which they are destitute: So dead carcasses have neither soul, nor that actual heat; so bodies just expired retain that heat for some time, yet live not, wanting a soul: So seed is largely fraught with that native heat, though it live not, through defect of a soul: though our learned *Neoterikes* judge it to be animate: which discourse shall be referred to its proper place.

To the third I answer, That feaverish heat is contrary to the native, as it is more intense; for an intense degree of the same quality, in comparison with a more remiss, is accounted contrary, because it effects its destruction, by raising it to intensity. Besides, feaverish heat is contrary to native, by reason of the passive quality attending it; for feaverish heat is dry, native moist.

Lastly, we shall thus disoblige our selves from the duty we owe to *Aristotle*'s authority, that he referred to the effects, not the nature of native heat. But the effects of this heat are almost divine, the honour of which is rather to be conferred upon the soul and its faculties; though the heat of our fire being temper'd according to Art produceth admirable effects in Chymistry: And so even in our Culinary fire, as in *Ægypt* (according to the report of *Scaliger*) Eggs are wont to be excluded in some Furnaces, so artificially built, that the heat of the fire may be in them so temperate, that it may be fit to effect generation.

The fifth Section of Physiology.

Of the Parts.

Chap. I.

Of the Nature of the Parts.

A Part is a body cohering to the whole Mass, and participating of life, and fit for its functions and offices.

THIS definition of a *Part* being the most ingenious invention of *Fernelius*, was afterwards ratified by the consent of most learned men. For he considers a Part as it is related to Medicine, *viz.* as it is capable of health or disease; and in his opinion, all those deserve not the name of Parts, which though they concur to constitute the body, yet they cannot sympathize in a Disease. Therefore the Humors and Spirits have no share in this definition, because they do not wholly cohere, nor participate of a common life. So it extends not to the hairs, nails, fat, and marrow of the bones, which though they wholly cohere, yet they are not sharers in life, neither are they truly nourished, but onely increased by neighbouring position; so those things which are preternaturally adnate to the body; as gravel, hard skin, and warts, which though they have a total adhesion to the body, yet enjoy no life. So neither are carnous excretions Parts, though they cohere to the whole, and communicate in life, because they are not appointed to any action or use.

You will object, that *Galen* and *Aristotle* often honoured the hairs, nails, fat and marrow, with the compellation of Parts. *I answer*, That in their time this term Part was taken in a great latitude, as it signified any thing concurrent to the constitution of the Body, but with us the acceptation is *strict*, as being taken for parts onely animate, and subject to Diseases.

Yet the hairs and nails cause sturdy doubts, which many Neotericks add to the number of living parts; of which dispute see *Tardine* in his most elegant *Treatise of the Hairs*.

CHAP. II.

Of the differences of the Parts, and first of the Similar Parts.

All Parts are divided into Similar and Dissimilar. The Similar Parts are they which are divided into Parts of the same nature, and not differing in species.

THE Matter of the Parts lends occasion of this division; for some Parts being made of the same and every where alike matter, are called *Similar*; but if the matter be diverse, they fall under the notion of *Dissimilar*. But we say they have a like matter, because at the first glance they represent themselves so to the sense; such is the substance of the nerves, whose parts appear to sense wholly similar: but yet a curious Scrutinist will discover some dissimilar parts in them, for their interiour substance is soft and marrowy, but the internal hard and membranous. But this difference is not of such validity, nor so manifest, but that the nerves may find place in the catalogue of Similar parts: *Avicen* defines a Similar part thus, *whose parts retain the same name and definition with the whole*: So every part of the bone is bone, and every part of the nerve nerve. But you must alwayes apprehend this discourse to signifie the matter of the Parts, not their figure or use: for in relation to these, every particle of them retains not the definition of the whole; for example, a nerve is defined a similary part, white, arising from the brain, or the *spinalis medulla*, prepared for the communication of motion and sense to the whole body; which definition is not agreeable to every particle of it.

These Similar parts are two, Spermatick and Carnous.

The spermatick are produced by the incrassation of seed in the first fashioning of our bodies.

The principles of our generation are two, *viz.* the seed and menstruous blood, which are the platform of all the parts of our bodies: for seed is the Author of those first rafters, *viz.* bones, ligaments, tendons, membranes, and such like.

The Carnous owe their composition to blood.

The carnous parts are easily distinguished from the spermatick, because they are red, but these white and most commonly solid and hard; but blood being hot and moist, therefore the carnous parts have also acquired a temper hot and moist: Yet it is not so with the spermatick parts, which, though seed be hot and moist, are yet cold and dry, because the calidity of the seed depends upon its spirits, which convert not into the substance of the part, but have the title only of efficients in generation; but the moisture of the seed is wasted, that the parts

generated out of it, may become dry and hard: whence heat subsisting upon moisture is diminished proportionally to the diminution of moisture.

The flesh of the similary parts is threefold; of the muscles, of the bowels, and flesh properly so called.

But the quantity of the musculous flesh is greatest, for almost the whole bulk of the body is composed of muscles, and their substance is commonly and simply termed flesh, but the substance of the bowels also is called flesh, and the greater part of them is composed of blood alone; yet to the constitution of some there goes a permixtion of seed with blood: such is the substance of the ventricle, intestines, the wombe, and such like.

For the due execution of the actions of the similar parts, there is but one condition necessary, viz. *their just temper.*

The similar parts as similar, and as distinguished from the organical, exercise onely one action, *viz.* Nutrition, for which cause they attract, retain, and assimilate to themselves their proper and convenient aliment, which cannot be effected but by their temper, for according to the various temper of any part, the aliment must be various and diversly changed; whence a similar action is defined, whose original being only from the temper of the part, it is perfected by the same, and is wholly and perfectly exercised by every punctilio of the part.

Chap. III.

Of the Dissimilar and Organical parts.

The Dissimilar parts are those which are divided into parts unlike in nature, and differing in species.

So the Heart, Liver, Reins, and other parts, are termed Dissimilar, as being composed of many similar parts, *viz.* membranes, veins, arteries, nerves, and a *parenchyma.* So the hand and arm is pieced up of bones, nerves, musculous flesh, skin, and the rest.

Every Dissimilar part is Organicall, but every Organicall part is not Dissimilar.

Many confound the Organical with the Dissimilar, so that they suppose it to imply all one, if we divide the parts into similar and organical, as into similar and dissimilar: But in this they erre, because many similar parts are also organical; for the bones, veins, and arteries are similar parts, yet being variously formed, and exercising organical actions, they are usually called organical: and so in relation to their matter they are *similar*, but in respect of their form and figure *organical.*

But an Organical part is that, which by the vertue of its owne conformation acts determinately.

The similar parts simply and strictly considered, as being conflated of one matter, and busie in one action, *viz.* Nutrition, may stand in direct opposition to the organical: hence it is common to divide all the actions of our body into similar and organical, and though, as before is noted, there be but one onely similar action,

yet

yet the organical run almost to infinity, as they are various, and particularly want an organ variously conformable, this signifies a necessity of constituting many instrumental parts: Hence is that large catalogue of the parts contrived with such rare artifice, that causeth us to stand amazed in admiration of the juncture of our own bodies.

To cause the action of the organical parts, there are four things necessary, conformation, magnitude, number and conjunction.

Conformation imports three things; figure, passage and cavity, asperity and lævity.

It is impossible that an organical part should duly perform its action, unless it first rightly conform, and especially acquire a proper figure; so for instance, the head ought to be round, the arm long, and so forth. Besides, the parts for the discharge of their offices must have certain passages and cavities: so the veins and arteries have their passages, the ventricle useth the passage of the *Esophagus*, but the cavity is all that space which contains the aliment. Thirdly, some parts for their more convenient operation ought to be smooth, as the *aspera arteria*, whose interior superficies is smooth and polite, for the sweeter modulation of the voyce; for it is not termed rough, as being unequal and rugged, (according to the usual acception of that term) but being made up of an unequal, *viz.* cartilaginous and membranous substance. But it is requisite some parts should be rough and rugged, as the interior superficies of the ventricle, that it may the better contain the aliment.

A certain and determinate magnitude also is proportioned to every member, requisite to the exercise of its action.

So the Liver is bigger than the Heart, the Brain than the Eye, and so forth.

But one part of the same kind are sufficient for the exercise of certain actions, for others many.

So for speech, the tongue onely is requisite; but to hold any thing, many fingers are necessary.

Conjunction signifies two things, viz. *site, and connexion.*

So the liver is situated on the right *hypochondrium*, but the milt in the left; the intestines in the middle of the *abdomen*, the wombe between the bladder and the *intestinum rectum*: so the bones effect motion by their mutual connexion in the joynts: on the contrary, the lips and the eye-lids for the performance of their offices ought not to have any connexion, but are open and separate.

But the organical parts are two; the principal, and the ignoble.

The principal are they which are without exception necessary for the conservation of the individual, and are liberal in the distribution of faculty and spirit to the whole body.

And these are three; the brain, the heart, and the liver.

There are in our bodies three faculties, as we shall afterwards instance; the animal, vital, and natural; every of these keeps a peculiar court in peculiar members, in which it is more glorious and majestical, and from which in fellowship with the spirits, which are also generated in it, it flows into the whole body: hence these parts are nobilitated with the title of Principal. This is the ancient and customary tenent of School-Physicians, which we propose for the sake of young Practitioners, from which opinion in the Physical Schools it was a sin to dissent, though it be inconsistent with the assertions of the Peripateticks, who obtrude, that the Soul with the train of all its faculties, resides wholly in the whole, and wholly in every part, therefore there needs no influence of faculties, they dwelling in every part, and operating every where, if they want not convenient instruments; which caused *Aristotle* to say, *If the eye were placed in the foot, the foot would see.*

The ignoble are they which send forth no faculties nor spirits, or which are the servants and vassals of the principall.

So the organs of the senses are framed for the sake of the brain onely; so the lungs, midriffe, and arteries are designed to the temper and purgation of the heart; so the ventricle, intestines, milt, reins, both bladders, are made for the use of the liver. To be short, all the parts of the whole body are ignoble, excepting the three principal parts mentioned. Yet *Galen* in his *Ars parva* reckons the testicles among the principal parts, because they are necessary for the conservation of the species. We must therefore distinguish, that in respect of the species they are principal parts, not in relation to the individuum.

A Corollary.

That which should here be discoursed of the substance, temper, figure, situation, action, and use of every part, is so accurately and perspicuously handled by the learned *Laurentius in his Anatomical History*, that repetition will be superfluous. Therefore thus much shall suffice to be spoken of the Parts.

The sixth Section of Physiology.
Of the Faculties and Functions.

The First Chapter.

Of the Nature of Faculties and Functions.

The Faculties and Functions depending upon the Soul as their first cause, it will not be amiss to explain what the Soul is.

The Soul therefore is the substantial form of a living body, by which we enjoy life, sense, nutrition, understanding, and local motion.

Aristotle defines it, the perfection or act of an organical body potentially living, which definition lies invelop'd in obscure terms, and is a point of nice speculation; We therefore suppose this our definition to be more clear, and more convenient for our conduct in the course of Physick: for man being constituted of matter and form, as all other natural bodies, and all his parts being the matter, it is consequent that the soul should be the form. For all actions having a dependency upon the form, and the soul being the cause and principle of all the actions of a living body, we must necessarily acknowledg that the soul is the form. Hence in the absence of the soul, action ceaseth. By this means we arrive at the knowledg of her by her actions onely, because immaterial substances are understood only by their effects. But these various actions are exercised by the soul, through the help of divers vertues and proprieties, which are the immediate retainers to its Essence, and immediately depend upon it, and these proprieties are termed faculties, of which we institute our following discourse.

A Faculty is a proper and inseparable accident of the soul, which is instrumental to it in the execution of certain Functions in the body.

The

The faculties are accidents referred to the second *species* of quality. Their subject is the soul, in which they inhere, not as common but as proper and inseparable accidents: hence *Fernelius* weakly asserts them separable from the soul, which he endeavours to verify by an instance of the auctive faculty, which he affirms to be abolished, when the vigor of Age declines. Yet this faculty is not abolished, but only lies idle for want of Instruments: for the whole Aliment is wasted in nutrition, because the body being well grown, requires more nutriment; and innate heat being debilitated cannot operate accretion, of which nature also is unmindful, while it hath filled the body to its due proportion: yet this faculty is not extinct, as neither the procreating faculty in a Child, though it is quiet without wantonizing, till Youth, when it finds the seed elaborated to maturity fit for the exercise of its functions.

A Function is an Active motion, or the effect of a Faculty in any part of the body.

As the faculties wait immediately upon the form or the soul, so the functions upon the faculties, as effects depend upon their causes. But in this lies the distinction between the actions and faculties, that they are appropriated to the soul, the functions to the whole masse: therefore for the exercise of action, there is not only required the presence of the soul, with its retinue of faculties, but also a disposition of the Organ fitted for action, which being disorderly, the actions are lamely, or not at all exercised.

But it is observable, that in the parts, beside the action properly so called, there are two other things considerable, *viz.* their *Work* and *Use*. The Work is the effect of action, *viz.* when it hath a real and permanent object; as for example, the Chyle, which proceeds from concoction in the ventricle, is named the Work, so the blood in the Liver. But the use of a part is, when it exerts no action from it self, but is only auxiliary and commodious to the action of another part, as the mesenterium which is only the pillar supporting the mesaraick veins; the epiploon of the ventricle nourisheth heat, and involves it as a vestment. Therefore *Use* is distinguished from action, because this is perpetually in motion which cannot in conceit be abstracted from it; but Use is placed in the idleness of the part, which sometimes remains after the decease, as appears by the use of the skin, which covers the whole body, and by the skul useful to contain the brain.

CHAP. II

Of the Differences of Faculties and Functions.

The Faculties and Functions are three-fold; Natural, Vital, and Animal.

THE spirits were before divided into three differences, every one of which is produced in its peculiar part, and streams from it into the whole body; where we mentioned three parts which are the shops of these parts, it remains now that we constitute three faculties and enthronize them in those parts, which by the disposition of instruments, may in them chiefly exercise their actions, whose actions ought not to exceed in number the faculties, being their effects; and because we attaine not the knowledg of the faculties but by the functions aforesaid, they were divided into three, because there appear three kind of actions, distanced by

a great latitude, every of which is subdivided into ts *species*, as after shall appear.

But experience doth often inform us, that those three functions, and so the faculties are mutually distinguished.

For *First*, it is evident enough by this that the Animal faculty is distinguished from the natural, because many parts, as the bones, and cartilages are destitute of sense and motion, yet they live and receive nutriment.

Besides, It is plain by this that there intercedes a difference between the Vital and Animal, because when we sleep or desist from all operation, yet the heart with the Arteries is in continual agitation, and is in no wise obedient to the command of the will. *Lastly*, The distinction of the vital from the natural is manifest in a part consumed by an Atrophy, or the whole body in a Marasmus, which for want of Aliment is pined, yet it lives by the help of a faculty issuing from the heart, which defends and preserves it.

Some may *object*, That *Galen in his bookes of the differences of Symptomes*, constitutes only two faculties, the Animal and Natural, omitting the Vital. *I Answer*, That *Galen there* understands that terme Naturall, at large, for all that which is not voluntary, and so comprehends the Vital faculty in the latitude of the Animal, for he there engages himself to the strict law of division, which is made, when the members are opposite, so that in this manner voluntary is opposed to involuntary: seeing then the Animal functions are voluntary, but the Vital and Natural involuntary, and both performed only by the vertue of nature, therefore he there expresseth both by the term of Natural, though in many other places he distinguisheth them.

Chap. III.

Of the Natural Faculty and Function, and their species: *and First of Nutrition.*

The Natural faculty is that vertue of the soul, by which through the assistance of native heat the body is nourished, and increased, and the same according to its species *is generated.*

And it is three-fold, Nutritive, Auctive, and Generative.

Hence the Function is three-fold, Nutrition, Auction, and Generation.

IN Animate bodies three things are very necessary, the conservation of the *Individuum*, its just proportion, and the conservation of the *species*. The substance of the *Individuum* by divers causes, as well internal as external, daily moulders away, and something alwayes departs from it, which unlesse a restauration were made by Aliment, life would soon be extinct: that therefore this body may be preserved to while away some time, the first faculty called *Nutritive* is requisite. But because Nature hath confined all things to a certain magnitude, convenient for the exercise allotted them, the second necessary will be the *Auctive* faculty, by the help of which the animate body fils up every particle of that magnitude; whence this virtue proposeth not for its end the conservation of the form in the matter, but the operation of the living creature. Lastly, animate bodies being frail, and subject

to

to corruption, left their *species* should fail the *Procreative* faculty was necessary, by which though the individuals yeild to corruption, the *species* it self is preserved.

The Nutritive faculty is that vertue of the soul, which by the help of innate heat converts the Aliment into the substance of the body, to repaire its loss.

The Action of this faculty is called Nutrition, which is the instauration of that substance of our bodies which is consumed.

The Native heat in our bodies is never idle, as is before alleaged, but acts continually upon the humidity, which it wasts and dissolves; therefore left the creature should pine away, and dye, the losse must be made up, this caused that opinion of *Hippocrates*, that a man cannot subsist without Aliment seven dayes: And so Nutrition is proper only to living creatures; for though by *Aristotle* himself, fire is said to be nourished and increased by combustible matter, yet this is no true Nutrition, but only improperly so called: for there are three things requisite to true nutrition and accretion, according to the mind of *Aristotle*; *First*, That a thing be nourished and increased by the access of external matter; *Secondly*, That the thing increased remain numerically the same; *Thirdly*, That this accesse of magnitude accrew not only to the whole, but to every particle thereof: But now in the nutrition of the fire, it remains not in its numerical identity, but by reason of the combustible matter is continually successive, neither is every particle thereof compleat with the addition of magnitude, and for this cause, true and proper nutrition is not agreeable to fire, but by Analogy only.

It may be *objected*, That if the Aliment in Nutrition convert into the substance of the parts, there is no intervening difference between nutrition and generation. *I answer*, That there is no real, but only a rational distinction between them, *viz.* according to the diversity between the whole and a part, for nutrition is the generation of a part of the substance, *viz.* of that small part of the flesh which is wasted; but generation is of the whole flesh, and the total substance: This therefore the Philosophers term an *adgeneration of the parts*, but the other is simply named *generation*.

The nutritive faculty is attended with foure servants; the attractive, retentive, concoctive, and expulsive.

And their actions are, attraction, retention, concoction, and expulsion.

Every of these is twofold; one official, the other private.

The official is that which is not only subservient in the nutrition of the part in which it is exercised, but also of the whole body. But the private is onely servitor to that part in which it is exercised.

The parts which exert official actions, are said to exercise publick duty, the rest private: So the ventricle and liver are official in their actions, as attracting, retaining, concocting, and expelling the aliment, not for the nourishment of themselves only, but also of the whole body; but the mouth, the flesh, and such like, do only act privately, as attracting aliment only sufficient for their own nutrition.

The attractive faculty is that vertue of the soul, by which the parts attract their usual aliment.

All the parts not being of one and the same substance nor temperament, any aliment is equally fit for their nutrition, but every part attracts that which is to it self most convenient, by that faculty which is the handmaid of the nutritive, *viz.* that which is called the attractive.

Private attraction is caused by heat and siccity.

But the official, partly by those qualities, partly by the direct fibres.

All natural actions proceed from the temper, though not all from the same;

but

but as they are divers, so they delight in variety of temperament. Yet it is undoubtedly true, that all are helped by heat, though they be sometimes sociable with humidity, sometimes with siccity. And so the attraction of every singular part is strengthened by heat and siccity, and performed by them alone, which is to be understood of private attraction; for official actions are not exercised by the temper alone, but they must necessarily use a due disposition of instruments, and so official attraction is not onely performed by the aforementioned qualities, but also by direct fibres which by their contraction insinuate the aliment.

The retentive faculty is that virtue of the soul, by which the parts retain the attracted aliment.

The parts invite by attraction the aliment as their familiar and acquaintance, and therefore attract it, that they might enjoy the company of so dear a friend; which cannot be effected, unlesse they retain it for some space: this then implies the necessity of another quality, by whose help the aliment may be retained in every part.

Private retention is exercised by calidity and siccity, as also attraction.

But official is performed, not onely by these qualities, but also by oblique fibres.

The natural parts on which it is incumbent to exercise official actions, are interwoven with three kinds of fibres, direct, oblique, and transverse, by the help of the direct attraction is performed, of the oblique retention, of the transverse expulsion, as afterwards shall appear. But all these fibres officiate their duties by self-contraction; as all the muscles when they agitate the parts by various motions, usually perform it by a retreat, contracting them towards their principle.

The concoctive faculty is that virtue of the soul, by which the parts change and assimilate to themselves the aliment.

So we say that our meat is then concocted in the ventricle, liver, and other parts, when in colour, smell, taste, and first qualities, as also in substance it is assimilated to the parts, which was the mind of *Galen* himself, *Book* 8. *of Composition of Medicaments*, where he terms concoction alteration, which proceeds so far, till the aliment be changed into a resemblance to the part: Where also he instructeth us in the difference between *concoction* and *nutrition*, for concoction is an assimilation, but nutrition is an union of that which is assimilated. *Aristotle* defines concoction, *a perfection arising from the natural and proper heat by opposite passives*; which definition is too Philosophical, and extends too far, nor doth so nearly touch upon the nature of those coctions which are performed in our bodies.

Every concoction in our body is perfected by heat and moisture.

The Philosophers propose three species of concoction: *Maturation*, which is the concoction in fruits: *Assation*, which is by the heat of fire; and *Elixation*, by heat and moisture. That concoction which is performed in our bodies, is a kind of elixation, or an alteration like to elixation, for it is caused by our native heat, tempered with much moisture: So the aliments, for the more convenient concoction, ought to be well drench'd with moisture.

Observe, That official concoction is performed onely by these qualities, and stands not in need of any fibres, as the other three actions subservient to Nutrition.

But concoction in our body is threefold, viz. *Chylification, Sanguification, Assimilation. Chylification is performed in the Ventricle, Sanguification in the Liver, and Assimilation in every part.*

The manner of these Coctions and their Excrements, were treated *in the Section*

of

of humors; which Exposition, if it be not copious enough for the satisfaction of any ones desires, and the controversies agitated concerning it; let such an one appeal to *Andreas Laurentius* in his *Anatomical History*, where he may find all of them largely and perspicuously handled.

In Concoction of this kind we must take special notice of a Theoreme consented to by Philosophers and Physicians, viz. *that all concoction is caused by incrassation.*

In good concoction moisture is joyned with siccity, and the humid parts more convenient for nourishment, are united to the terrene alimentary parts; but the more thin and dissipable part of moysture is consumed by the action of heat, hence coction is produced by incrassation.

But these sequels seem to force our judgement to a contrary sentence: For *first*, Chyle produced out of bread is thinner than bread, blood than chyle, spirits than blood, which consequentially derive their original from them. *Besides*, if urine be more thin or crass, it is termed crude, therefore coction consists in a certain moderation of the substance, and not in crassity. To *the first I give this answer*; that is, In every coction the crass excrements are excluded; from the separation of which, the tenuity of the rest of the alimentary mass proceeds; yet this distinct by it self, and from the excrements, is incrassated, and this also is onely termed concoct, the rest is set apart as useless; for these exiles are not properly the subject matter of coction, but that onely ought to be termed the subject of coction, which after the departure of the excrements is fit for concoction; from which the excrements being totally separated, it is evident that necessarily, in that whole interval in which coction is performed, the action of heat should cause some effluxion, and so the incrassation of the thing which is concocting. *To the second I reply*, That the urine, which by reason of too much thickness is termed crude, is not in its proper substance inclined to this crassity, but by the permixtion of some other crass thing, not separated through some defect in concoction, which by the assistance of heat is wont to banish things heterogeneous.

The expulsive faculty is that, by which the parts after concoction expel things of no use.

All that is attracted by the parts, cannot be wholly consubstantiated with them, but there alwayes remains something which estranges it self, and will not accept of the benefit of concction, which therefore ought to be removed as strange and superfluous, which for this reason is called *Excrement*. This faculty then was requisite to turn out of dores this alien, lest it should contrive any thing prejudicious to nature. The official parts also drive out not the excrements onely, but the useful substance, being unable to naturalize all the aliment, after they have for some time entertained it, and pleasur'd themselves in it, they thrust it away to other parts as a burdensome superfluity, and useless mass. And for this reason the very alimentary substance is called useful excrement, in relation to the parts expelling it, because whatever is expelled or cast out, is in a common speech usually termed Excrement.

Private expulsion is caused by heat and siccity.

But offcial, partly by those qualities, partly by transverse fibres.

There is no cause of admiration in any one, why attraction, retention, and expulsion, being actions widely differing, should be performed by the same qualities, *viz.* calidity and siccity; for this doth peculiarly evidence, that we must needs acknowledge an higher cause of actions then the temper, which is onely the instrument of the form: So an Artist by one and the same instrument operates variously,

though it is undeniable, that divers degrees of heat and dryneſs are requiſite to divers actions which yet fall not under our knowledge.

But the tranſverſe fibres are very commodious for official expulſion, becauſe eſpecially by their contraction they crone up the part, and compreſſion is the cauſe of expulſion.

A Corollary.

Many hold the Number of faculties and functions attending on nutrition to be imperfect and deficient, becauſe *Galen* and other Authors enlarge this catalogue with many Additions, but how many functions ſoever are found, we muſt multiply the faculties which are their cauſes to equalize them in number.

Firſt, Therefore *Galen* ſerves up two courſes of appetency in the ventricle, not Animal, only perceptible to the ſenſe, and named hunger: but alſo natural; by which through a natural appetite we deſire convenient Aliment; this appetite no part of the body wants.

Secondly, *Galen* addes to the before rehearſed qualities the ſecretive and diſtributive, for *in the firſt of nat. fac.* when he had informed us that the concoctive was in the veins and parts, he further inſiſts, that a ſecretive faculty is neceſſary, which might ſegregate things ſuperfluous and uſeleſs from the uſeful, and expel them: And *in the 5. of cauſes of ſymptomes*, he recites ſymptomes contingent by ſome error in ſecretion, and diſtribution, the Jaundies proceeding from a defect in ſecretion; Atrophy from vitiated diſtribution.

Thirdly, Appoſition and aſſimilation differ from the reſt before mentioned, therefore their number muſt be multiplyed.

To *the firſt I anſwer*, That appetency is not really diſtinct from attraction, but the difference onely conſiſts in the nicety of underſtanding, for this vertue is implanted not to attract promiſcuouſly, but with choice, *viz.* of that which bears a friendly compliance with the parts.

To *the ſecond I anſwer*, That diſtribution and ſecretion are not diſtinct, but rather mixt faculties, conſequential to the operations of the other. For the diſtribution of the Aliment thorough the whole body is effected by the other parts expelling it, in which humors are copious, and others attracting which want humor as *Galen* himſelf atteſts, and ſo it depends partly from the faculty attractive, partly from the expulſive. So alſo ſecretion is uſually cauſed, when the retentive faculty of the parts keeps that which is of uſe, and the expulſive expells that which is uſeleſs.

To *the third I anſwer*, That appoſition and aſſimilation proceed not from any peculiar faculty, but only are various degrees of concoction, ſo that through its *mediums* it is in progreſſe from the firſt motion of its alteration to the perfection of aſſimilation.

But the reaſon why *Galen* propoſeth them all in proper and diſtinct terms, is for the clearer underſtanding them, not that they are really diſtinct from the other actions.

CHAP.

CHAP. IV.

Of the Auctive faculty, and of Accretion.

The Auctive faculty is that virtue of the soul, by which the body upon conversion of aliment into its substance, fils up its dimensions, and to arrives a due proportion, convenient for the exercise of actions.

Hence Auction or Accretion is an extension of the body into every dimension, viz. *long, broad, profound.*

HEnce ariseth that distinction of *Natural* from *Artificial* Accretion, for those things which are augmented or extended by Art, lose so much of their longitude as they acquire in latitude, and the contrary. But true accretion is in this manner differenced from *pinguefaction*, because pinguefaction extends not it self to all dimensions, but most to profundity. It is also distinguished from the Accretion of stones and metals, which is by *opposition*, not by an intrinsecal dilatation of the parts, from aliment converted by nutrition, for auction deviates not from nutrition, but the parts receive augmentation from the same matter that they receive nutrition.

Yet though Accretion proceeds in the same course as Nutrition, it is really distinct from it.

This auctive faculty is of such necessary alliance to the nutritive, that without the assistance of it, it cannot be compleat; upon which ground many have been moved to assert them one and the same faculty, therefore the auctive enjoyeth no singularity of action different from the nutritive, but when so much is acquired by the prepared aliment, as was carried away by quotidian effluxions, then the body is said to be simply nourished, but when the income is greater, then it is augmented and increased: But addition or diminution change not the species of the action; therefore the auctive faculty differs not from the nutritive, having one and the same object, *viz.* nutriment.

But yet we may for certain conclude, that these two faculties are set at a large distance; for proof of which there are many arguments: For *first*, they agree not in their proposed end, for the end of the nutritive is the restoring of the parts wasted, but of the auctive an acquisition of due proportion. *Secondly*, they differ in form, for the form of nutrition is the union of the aliment, but of accretion a motion of extention. *Thirdly*, they are distinct in the manner of their mutation, for in nutrition there happens no local mutation of the body, but that which is augmented changeth place, for it fills up more room. *Fourthly*, they are differenced in consideration of time, for nutrition is at all times, but accretion hath a determinate time of duration.

But that accretion proceeds not from the copiousness of aliment, *viz.* after nutrition performed, will in this convincingly appear, because experience shews that they grow and fill, who use but little nutrition, as is evident in boys and youths diseased, who though they be very lean, are yet continually growing, because at such age the auctive faculty is most efficacious, and so potent, that it plunders the nutritive it self of aliment, conveying it chiefly to the solid parts, *viz.* the bones, by the extension of which the whole body is extended, therefore the ali-

ment by virtue of the auctive faculty is carried to these parts, and the carnous parts are defrauded of their due nutriment: Hence those that are in growth, appear lean: On the contrary we find many fat, and well stuffed, and fed with high delicacies, which yet arrive not to a due or decent procerity of body.

But though to the auctive and nutritive faculties the same object is proposed, *viz.* nutriment, yet they use this object in divers relations. For the nutritive useth it as it tends simply to the conservation of the substance of the part. But the auctive as it is directed to heighten the substance to a just magnitude and quantity. For though the substance acquired by nutrition, have quantity, it being impossible for a material substance to be destitute of quantity: yet nutrition regards not the substance as it hath quantity, but as it is a substance; but accretion is related to it, not as a substance, but as having quantity. So, for example, as the blood is incarnated, so far goes nutrition, respecting only the substance of the flesh, but as blood is changed into a greater proportion of flesh, here enters accretion, regarding not the substance of the flesh, but only its quantity.

The end of accretion is not commensurated by life, but accretion is most usually extended to twenty five, or thirty.

Nature hath measured out a certain proportion to every living body, therefore a living body is so long in a tendency to augmentation, as it is in attaining to this determination of time. But when it is augmented to a compleat magnitude, in obedience to the command of Nature, it stops there, and makes no further progress. Besides, because accretion immediately depends upon the extension of the solid parts, according to the three dimensions, the sequel will be, that a body doth so long increase, as the parts thereof may in this manner be extended. But now in the course of our life, the solid parts are so hardened and dryed, through the continual resolution of primigenious moisture, occasioned by the action of native heat, that they will no longer yeeld to extension.

But though the auctive faculty after the limitation aforesaid, operates no more, yet we must not assert it corrupted or idle, as some fancyed; it being not necessary that the faculties of the soul should be alwayes secondly actual, and in operation; for in our apprehension generation and local motion is not ever actual, and therefore also there is no necessity of a continual growth, but the faculties, upon their arrival to their appointed end, repose themselves. So the auctive rests upon the aflecution of its end, *viz.* the due stature of magnitude. After that it is obstructed in its operation, having no fit subject, *viz.* a body not disposed to an aptitude for extension. The cause therefore sprouts into two branches, one taken from the end, the other from the subject.

A Corollary.

Here is obvious a Probleme worthy our knowledge, Why all men are not advanced to an equality of magnitude, but some are taller, others of shorter stature? *I answer*, That the cause of this is threefold. The *first* drawn from the various disposition of bodies, for the more moist and hot they are, the fitter they are for extension, and grow more, and in less time than cold and dry bodies, whose parts submit not so easily to extension. *The second* proceeds from nutrition, for the more perfectly and copiously a body is nourished, it is of a better and more speedy growth; and the more imperfectly and sparingly it hath been supplyed with nutriment, it groweth the less and the slower. *The third cause* is the similitude of the Parents,

Parents, for tall Parents generate tall Sons; short, short ones: because the seed transfers the *idea* and conditions of all the parts, from the Parents upon the Children.

CHAP. V.

Of the Generative faculty, and of Generation.

The Generative faculty is that virtue of the Soul, by which a man produceth a thing like to himself, for the perpetual conservation of his species.

Hence Generation is a production of something like the producer.

GEneration, according to the Philosophers, is twofold, Univocal, and Equivocal. That is termed *Univocal*, when every thing generates something resembling it self, such is the generation of all perfect animals. *Equivocal* is when things of a various and dissenting nature are generated, such is the generation of imperfect animals, whose wombe is putrefaction: Therefore univocal generation is principally applicable to perfect animals: Hence Mules and Eunuchs are not fit for generation. By this it appears that the name of Generation is not used in so large a sense by the Physicians as by Philosophers, who call all introduction of form into matter, Generation; but here it is taken onely for the production of a like thing, which is also called *procreation*.

To the Generative faculty two other are subservient, the alterative and conformative.

The Alterative is that which alters and changes the subject matter of generation.

Seed is the subject matter of generation, which is incompatible with the nature of various parts, unless all its qualities, as well first as second, be variously changed; for this cause the soul is endowed with a peculiar faculty, which may execute this duty, which is therefore called alterative, or immutative.

The Conformative is that which graphically delineates and effigurates the whole body, and all its parts.

The Conformative faculty entertains the seminal matter altered and prepared, and out of it commensurates all the parts of the body, and assignes to every of them a due magnitude, figure, site, connexion, and all other things commodiously, which are requisite for the convenient exercitation of every peculiar action.

A COROLLARY.

All other relations to the Generative faculty, are more largely disputed in *the succeeding Section*, which treats of the Procreation of Man.

Chap. VI.

Of the Vital faculty.

The Vital faculty is that virtue of the Soul, by which the vital spirits are generated in the heart, and life is preserved in the whole body.

THE Spirits plainly demonstrate that there is in the Soul a peculiar faculty distinct from the rest, which from the fountain of the heart copiously flow into the Arteries, but every spirit is the instrument of some faculty. But this faculty generates Vital spirits in the heart, which spirits are the subjects of the influent heat, which two communicate themselves to every part of the body, the heat whereof with the implanted spirit they preserve. But life necessarily depending upon implanted heat, the conservation of it will be the conservation of life; hence this faculty is significantly termed Vital, or the preservative of life. And so life is an action depending upon this faculty as an effect upon its cause.

The Vital faculty is attended by two servants, Pulse, and Respiration.

It is ignorantly asserted by some, that the Pulse is the chief of Vital actions, and immediately to depend upon the Vital faculty: for life, as we before affirmed, immediately depends upon that, but the pulse is only a subservient action to it, caused by a pulsifick faculty, whose vertue is only to cause systole and diastole in the heart, by which means it performs its duty to the Vital faculty.

Pulse is a function of the heart and Arteries, composed of Systole and Diastole with some interposition of rest, caused by the pulsifick faculty of the heart, to further the generation of the Vital spirits, and effect the distribution of them thorough the whole body.

The Pulse of the heart and Arteries is composed of three parts, *viz.* diastole, systole and the intercession of a pause. By *Diastole* the heart and Arteries are impregnate. When the heart dilates it selfe, it attracts the Aire from the Lungs by the help of the Arteria Venosa, and the blood from the *Vena Cava*, that from the commistion of them in the left closet of the heart, the spirits may be generated, but the Arteries being strtech'd to a dilatation, attract the spirits from the heart, and are tumid with them, as also the external Aire, entertained by those orifices which are terminated in the skin; and in this manner *is transpiration* caused, which by this intromission of external aire fixes the internal heat to a due temperament, and cherishes it, for all heat is preserved by a moderate compliance of cold, according to *Hippocrates*.

By *Systole* or contraction, the heart by the assistance of the Arteria venosa, purges out at the Lungs, all the fuliginous excrements left in the generation of spirits. For the Arteries by an insensible transpiration drive out the fuliginous vapors contained in them, and send the spirits more copiously to the parts.

Lastly, there mediate between the systole and diastole and *intercessive* quiet, because a transition from one contrary to another cannot be effected but by a *medium*.

A doubt may be moved, whether the spirit and blood contained in the heart moves upon its coarctation: *I Answer*, that there are two doores in the heart, one in the right corner, another in the left; which are dilated, when the heart is contracted, and are so filled, *viz.* the right with blood contained in the right cavity; but the left with spirits contained in the left.

Three things are requisite to cause pulsation; Faculty, Instrument and Use.

The first necessary is a pulsifick faculty, which is the primary and principal agent; Secondly, instruments disposed to pulsation, *viz.* the Heart and Arteries, moved by that faculty. Thirdly, use and necessity forcing the faculty to action, *viz.* the generation of spirits, and conservation of native heat.

Respiration is an action, partly Animal, partly Natural; by which the Aire is ushered in thorough the mouth to the Lungs; by the distention of the breast, and by the contraction of the same, the smoaky vapors are excluded for the conservation of Native heat, and the generation of Vital spirit.

The parts of Respiration and of Pulsation are three, *Inspiration, expiration, and immediate quiet.* By inspiration the breast is dilated by the muscles, destin'd to this office, and in compliance with the dilatation of the breast; the lungs are also dilated, lest there should happen a vacuity in that cavity; and the lungs are filled with air, as bellowes, the inspiration of which aire tempers the violent heat of the heart, and thence the vital spirits are generated, as is before urged. But by expiration the breast and lungs are contracted, which by their contraction turn out of doores the hot aire and fuliginous vapors issuing from the heart.

The concurrence of three things is necessary for expiration, Faculty, Instrument, & Use.

First, Animal faculty concurs, moving the muscles of the breast, as also the natural implanted faculty causing motion in the lungs, that they might be helpful to the heart.

Secondly, There is a concurrence of instruments as all the parts designed for Respiration. And *Lastly,* use or necessity of Respiration, for the ventilation of the heat in the heart.

A COROLLARY.

It is much disputed, whether Respiration be purely Animal, or mixt, *viz.* partly Natural, partly Animal? Which being ingeniously disputed by *Laurentius* question 20. book the ninth, I referre the Reader to him.

CHAP. VII.

Of the Animal faculty and function, and first of the Principal faculties.

The Animal faculty is that vertue of the soul, which moveth a man to the exercise of sense, Action, and other principal functions of the mind.

The principal are three, Imagination, Ratiocination, and Memory.

Imagination is that action of the Soul, by which the species *of every object offered to the external senses is made perceptible, and distinctly discerned.*

EVery sense enjoyeth its proper and peculiar object, (as shall after appear) whose *species* it entertains in its proper organ, without passing judgment of it, for this is the prerogative of the Imagination only, to which the spirits presents the species,

ſpecies, conveyed by the nerves from the brain to the inſtruments of the ſenſes. The brain therefore being the Court of the principal faculties, while the objects of divers ſenſes promiſcuouſly reſort to it, they are firſt repreſented, and diſtinguiſhed in the imagination, which the peculiar ſenſes are not able to perform; for inſtance, the whiteneſs of milk is only repreſented to the ſight, but not the ſweetneſs of it, on the contrary the ſweetneſs is repreſented to the taſte, not the whiteneſs: But they are both together perceptible to imagination, which rightly diſtinguiſheth to what ſenſe they be related. Beſides imagination apprehends not only things preſent, as the ſenſes, but things abſent alſo, and repreſents them to the mind, compoſing many things never exiſtent, yet in Analogy to thoſe which are apparent to the ſenſes.

The Philoſophers divide thoſe operations of the mind, which we conſenting to *Galen* include under the notion of imagination, into two ſpecies, *viz.* into the common ſenſe, and into fantaſy or imagination; commanding (as it were) the common ſenſe to welcome only the ſpecies of preſent objects, but the imagination to propoſe to it ſelf things abſent, as if they were really preſent, as alſo things not in being, and impoſſibilities. But ſeeing that they differ only in the method of their operation, it is not neceſſary, that they ſhould depend upon faculties differing in ſpecies.

Ratiocination is that action of the ſoul, by which a man diſcourſes, underſtands and reaſons.

This is appropriate to man, the others being enjoyed alſo by brutes. But this receives the ſpecies of things from the imagination, dividing and compounding them, and unravelling their nature, by the help of diſcourſe, diſtinguiſhing good from bad, truth from falſity, drawing out of them many things, incomprehenſible by ſenſe, which yet our mind knows to be certainly true. This is the head of all ſciences, which by the efficacious vertue of this faculty are uſually learned and taught.

Memory is that operation of the ſoul, which retains and preſerves the received ſpecies of things.

The ſpecies of things when they are once hedged in to the mind, are there long detained, ſo that after a large ſpace of time, when they have been entertained by the ſenſes, they are repreſented to the mind and imagination, This cauſed the invention of a third faculty diſtinct from the reſt, which might preſerve all thoſe ſpecies, as a treaſury, out of which they may be fetched as occaſion ſerves.

The Philoſophers create another operation different from the memory, *viz.* *reminiſcency*, which ſummons up thoſe things that are run away from the memory, rallying them together by the help of thoſe which are yet retained. But yet we are inclinable to aſſert with *Galen*, that reminiſcency is an operation of the memory reflecting upon it ſelf. For it is not, as ſome conceive, the only buſineſs of the memory to retain the ſpecies: (for by this means it would be a vertue not knowing, but only lodging the ſpecies) but it is the office of the memory to record things, as they are tranſacted, and ſo *reminiſcence* is a progreſſive motion, not a differing action of the memory.

A Corollary.

A notable queſtion is uſually debated among Phyſicians, whether the principal faculties are locally diſtinguiſhed in the brain, in which for ſatisfaction I referre you to *Laurentius*, by whom, *queſt.* 2. *book* 10. it is admirably well handled.

CHAP.

CHAP. VIII.

Of Sleeping and Waking.

To the internal functions of the Brain, are referred Sleeping and Waking: we must therefore now treat of them.

ALL the Philosophers referre Sleeping and Waking to the common sense. Positively asserting sleep to be the cessation of the common and exterior senses; but watching to be the action and exercitation of them: Hence when wee comprehend the common sense under imagination, when also dreams (of which we shall after treat) may be circled into imagination strictly accepted, therefore this place will be convenient for this Treatise.

But Sleep is a quietation or cessation of the internal and external senses, appointed for the recreation of the body.

Watch is nothing else, but the free exercise of the same senses.

By the Interior senses we chiefly understand that internal action, by the help of which the species are received, which by the external senses are conducted to the imagination: for that operation sleeps with us, but not the action of imagination, ratiocination, or memory; which are not seldome exercised in sleep. Nay the senses themselves do not wholly compose themselves to cessation; for in sleep we receive violent objects, as noyses, ratlings, and such like; and so, though sleep be called a privation, and watching an habit, yet it is no total privation, but such an one which easily gives way to a retreat from it self to the habit, and by this means it comes short of the essence of true privation.

The next and immediute cause of sleep is the locking up of the spirits, and prohibition of their influence into the instruments of sense and motion.

But the influence of the spirits is block'd up by swarmes of vapors suffocating the brain, which barricadoe the passages thereof.

The cause of natural and quiet sleep is a gentle, and as it were roride vapour, exhaling from the aliments into the brain, stopping up the ventricles and passages of it, for the retention of the spirits and quietation of animal actions. But that sleep is induced by such like vapors mounting into the brain, it is evident, because the copiousness of meat and drink, wine especially, casts us into a long and deep sleep, but these send up many vapors into the brain. But they who are very sober, and fast, sleep little, by reason of the paucity of vapors making to the brain, which are soon dissipated; for the sleep ceaseth when the native heat hath dispersed those vapors.

For those things stop the influence of the spirits, which either much dissipate or dull them, or any other way fix them.

The principal cause of sleep prohibiting the influx of the spirits, is the plenty of vapors randezvouzing in the brain. Yet there may be afforded many other causes, producing the same with less efficacy, or at least not so naturally; for instance, when the animal spirits are so tyred by the labour of the day, more serious thoughts of the mind, studies and cares, so that all their forces rallyed together will not be able to effect an ordinary influx, but nature retains them, and the influent heat, to repair the loss of the spirits: So also cold things taken or applyed, intercept and

ſolidate the ſpirits, as it were to a congelation. And the ſpirits do not ſeldome make a ſtop at ſuch things as delight the mind, as pleaſant Songs, the alluſion of bubbling waters, an intermiſſion of cogitations, ſecurity of the mind, and ſuch like.

Laſtly, the end of ſleep is the inſtauration of the animal ſtrength, and of the whole body.

The chief deſigne of ſleep is to reſtore the animal powers to their vigour, becauſe they being over-wrought by a tedious and various ſenſation, are by the help of ſleep enlivened, and the ſpirits exhauſted by watching are ſtrengthned, the members wearied with motion return to their former nature and functions. Secondarily, alſo ſleep conduceth to the better effecting of natural actions, which by animal operations are in watching in a manner hindred: For in the time we repoſe our ſelves to ſleep, the heat retires to the inner parts, which is advantagious to concoction, and now new matter is afforded for generation of ſpirits, the excrements are mitigated, diminiſhed, and better concocted.

Chap. IX.

Of Dreams.

A Dream is a glancing apparition of ſome ſenſible thing, repreſented to an animal in the time of ſleep.

While an animal wakes, and exerciſes the external ſenſes, repreſentations from ſenſible objects are conveyed to the brain, that there being imprinted, by the virtue of the animal ſpirits, they might be preſerved. When therefore this animal ſleeps, and releaſes to his external ſenſes, then theſe repreſentations, unleſs the animal ſpirits be obſcured and obliterated with ſome dregs or diſturbance of violent motion, do again preſent themſelves, and appear in ſleep: This is the cauſe that the animal judgeth it ſelf really to know by the outward ſenſes thoſe things which are objected onely in ſhadow.

Dreams uſually viſit us in the morning, becauſe then after perfect digeſtion the animal ſpirit is more pure, the craſs vapors being reſolved and diſpelled by native heat; now therefore the ſpecies of things are preſented, and ſtated before the imagination more clearly, and perfectly; for as in troubled waters we perceive either none, or a very uncomely effigies, ſo the brain muddied with ſuch plenty of vapors, gives place to the effigiating of no dreams, or of very confuſed and broken ones.

But Dreams are either ſupernatural or natural.

Supernatural are divine or diabolical.

'Tis here impertinent to treat of theſe, belonging rather to Metaphyſicians or Theologers, to whom we concede the honour of this expoſition.

The Natural proceed either from the impreſs left of images cut out and ſhaped in the day, or from a certain temper of body.

Moſt dreams are hatch'd by the images of thoſe actions in which we have been in the day frequent: for the impreſſion of them upon the animal ſpirits being freſh, they ſtick the cloſer, and are the more eaſie rub'd over by our buſie nocturnall imagination. They

They also many times are composed from the various disposition and temperament of bodies. To men sanguine, the appearance of red colours, banquets, musical harmony, nuptial festivals, basiations, venery, gardens, and such like voluptuous fooleries, are usually represented in sleep: To bilious men, yellow colours, wranglings, war, homicide, firing, flying, and the like: To pituitous men, white colours, waters, navigations, swimming, drowning, fishes, and such like. To melancholicks, black colours, darkness, dead bodies, graves, and diabolical apparitions.

Yet *observe*, That the influence of the stars doth not seldome concurre with a disposition of the body to effect dreams, and these chiefly afford matter of Exposition.

CHAP. X.

Of the less principal Faculties.

The less principal Faculties are two, the one causing sensation, the other motion.

The Sensitive faculty is that virtue of the soul, by which externall objects upon the intercession of a fit medium are received in their proper organs.

The action of this faculty is called sense, or sensation.

FOURE things are requisite to effect Sensation: First, an orderly disposed instrument: Secondly, a proportionate object: Thirdly, a medium, which multiplyeth the species, from the sensible thing: Fourthly, a convenient distance between the object and the sense, that it may be rightly perceived.

The species of it are five; Seeing, Hearing, Smelling, Tasting, and Touching.

Seeing is a sense, by the help of which a man with his eyes perceives a visible object through a transparent medium actually illuminated.

Hearing is a sense by which a man perceives with his ears an audible object, through a sonorous medium, that is, a medium fitted for the conducting of sound.

Smelling is a sense by which a man perceives at his nostrils an object of smell, by a fit medium.

Taste is a sense by which a man perceives with his tongue the object of Taste, by a disposed medium.

Touch is a sense by which a man with any carnous and nervous part of his body perceives a tangible object, by a prepared medium.

The motive faculty is that vertue of the soul, by which a man in his owne strength performs local motion.

All these less principal faculties and functions are so exactly declared in Natural Philosophy, that we think it needless to allow them room for exposition.

The seventh Section of Physiology.

Of the Procreation of Man.

The First Chapter.

Of the Seed of both Sexes.

Two Sexes are requisite to the Procreation of Man, viz. *male and female; by whose mutual congress the prolifical seed is effused by both, from which being received in the cavity of the wombe, the first Sciography of the offspring is delineated.*

Mans seed is a humid and spiritous substance, well wrought in the testicles, from the aliment left of the third concoction, containing potentially the form of man, concurring not only virtually but materially to the production of the parts of the infant.

IT is an assertion commonly obtruded by many, That seed is generated by blood alone, operated in the Liver: grounding upon this, because they find the conducting Spermatick vessels tumified with blood, as other veins, and because that overmuch coition causeth an effluxion of blood. But this matter being to bear the force and impresse of the whole body, so that we commonly attribute the similitude of Children to their Parents to this; we think the assertion more proper, that it is derived from every part, from the aliment glean'd from the third concoction, which being not much changed by the parts, there is no cause of admiration, that it retains the idea of blood. Yet it cannot be supposed that every little particle comprehensible rather by thought, then sense, should afford this matter, but all the similar parts, which are called the sensible Elements of our body, but from the principal especially, which can supply us with those vivifying spirits, which represent the idea, and character of the whole.

But to that *objection*, that the blood issues by tedious venery: I *answer*, That the seminal nature not yet elaborated in the testicles resembles blood, being made out of it, somewhat changed in the parts, and before obtaining elaboration in them.

In the seed there are two parts, Spirit and Thickness.

The seed by the help of spirits is impostumate and frothy, it swels, because the spirits are much in motion and stirring: it is frothy, because by the same spirits as by aire it becomes tumid, and by their motion is agitated. But in this spiritous matter resides the formative faculty, by which a man engenders according to his own similitude. But the thickness is the humid and watery substance, which is manifestly evident when the spirits have bid adue to the seed, for then it looseth its spumosity, and whiteness, and that humid substance is the matter of all the solid parts, and their first step to a being.

The efficient cause of generation is brooded in the spiritous part, but the material in the incrassated part.

This affords cause of *objection* to the Philosophers, that one and the same thing cannot

cannot be agent and patient, therefore both causes cannot be placed in the seede. To which *I oppose*, That the assertion of this objection would hold good, if the substance of the seed were wholly Homogeneous, but it being composed of divers parts, it will not be inconvenient, that it should execute divers offices: for as it is spiritous, it acts upon, and informs that more humid and crasse substance applyed to it for its matter, and as it were its subject, as experience points out to us, in the seeds of Plants, and in Eggs: in which seeds of plants after they have derived heat from the earth, or the eggs from the incubation of the Hen the prolifical spirit is raised, which acting upon the matter of the same seeds or eggs, endevours and perfects the conformation of the parts. In artificials the efficient or Artist enters not into the thing made, or the work, because his business lies in the external parts: But Nature situate in the very marrow of every thing, perfects both internal and external, and penetrates the whole substance of its work, dwelling upon it, as in its proper mansion: This clears the doubt, and demonstrates, that the efficient and the matter for generation of the embryo, find both room in the seed.

But though the seed by it self perfects the generation of the infant, yet it is not actually, but onely potentially animate.

Some have been of opinion that the seed is actually animate, and hath that form, which afterwards must inform the whole fabrick furnished with instruments. But we suppose that the seed of man doth onely potentially contain the form of man. For the soul of man being extrinsecally adventitious, we cannot affirm, that the seed comprehends the humane soul onely potentially, as it hath an aptitude to induce those dispositions which are requisite for the entertainment of a more noble form: So neither in other living creatures must we imagine the seed to be actually animate, but potentially onely, because it hath that conformative power contained in the spirit, by which it generates according to its own likeness, when the seed is laid in a convenient place, and hath subject matter. But it is no absurdity to affirm such a power given to the form of seed, there being found in many inanimate things, as in load-stones, rubarb, and the like, many and notable faculties, which have not the advantage of any influence from a soul. Yet this point of doctrine is very intricate, and notably fenced with difficulties, which *Sennertus* shews us *in his Philosophical Hypomnema's.* Corruption therefore seiseth on the form of the seed upon the first arrival of the soul to the body, now fashioned and prepared to welcome this guest: which is said to live the life of a plant, so long as it is simply nourished, but when the organs of sense and motion are compleat, it lives an animal or sensitive life; and lastly, proceeds to the operations of a rational soul, when it hath acquired a well tempered brain, and disposition of spirits.

A COROLLARY.

There hath been a long-started controversie between Physicians and Peripateticks, whether women afford prolifical seed: For all the Physicians after *Hippocrates* obtrude the affirmative: for the defence of which they appeal to the common experience of women, who relate, that in that coition by which they conceived, they sent out something causing more pleasure. Which also the contrivance of feminine parts will serve to confirm, Nature having placed in them very large testicles for the elaboration of the seed, plenty of which being whitish and well

concocted is often found in them in dissection. Hence we may conclude that there is no third thing proceeding from the commixtion of male and female seed, whch is fit for the generation of the Childe. But the Peripatericks in obedience to their grand Master *Aristotle*, suppose that the seed of women is termed seed by analogy onely, and homonymie, concurring not to the generation of the *fetus*, but onely by provoking to coition, and useful to moisten the sides of the wombe; which assertion they seem to make impregnable, by the fortifications of strong reasons:

First, If a woman had prolifical seed, she might generate without obliging man to a copulation; for she would have the seed and menstruous blood the only two necessaries to generation of the Childe.

Secondly, One being by it self cannot be the result of two actual beings, but onely accidentally aggregate. Therefore out of two seeds the *fetus* cannot be produced.

To which objections, and others of the same nature, *I answer*, Both seeds, as well of male as female, though they be prolifical, are not sufficient by themselves to generate the *fetus*, but a due commixtion of both is requisite in the wombe, by which the delineation of the Embryo is perfected: And so out of more compleat beings proceeds not one being by it self; but yet out of divers incompleat beings one compleat is produced, is an opinion subject to no absurdity.

Chap. II.

Of Menstruous blood.

There is not onely a concurrence of the seed, but of the Menstruous blood also to the generation of the fetus, *which is another principle onely material, not efficient as seed.*

THE Mothers blood harbours none, or very few spirits, therefore it hath no efficient virtue, but onely supplies matter, out of which all the carnous parts are compounded, as the spermatick of the seed. And this blood is called *menstruous*, because in well affected women, which are neither with childe, nor give suck, it flows out every moneth.

And the menstruous blood is an excrement issuing from the last aliment of the carnous parts, which at certain times, and observed limitations, is in a small quantity purged out of the wombe, for the generation and nutrition of the fetus.

Hence it appears that menstruous blood is an excrement, and useful as to its substance, being converted into the parts of the *fetus*, and the nutrition of them. And this blood is usually in women plentifully, because of the weakness of their heat, which cannot digest all the blood made in the liver, as also because of their soft and moist temper, which breeds plenty of humors: Hence it is, that that blood exceeding in quantity is returned into the bigger veins, from the flesh now filled, and as it were satisfied, and by them is thrust out by the veins of the wombe.

The time for the expurgation of this blood is twofold, universal and particular. The universal is from twelve or fourteen yeers of age to fifty or fifty five.

Before

Before the twelfth or fourteenth yeer the vessels of women are narrow, and the heat almost extinct by the plenty of humors, cannot expel the reliques; and before that age great plenty of the blood is spent in the augmentation of the body. But after the twelfth or fourteenth yeer heat begins to move in a vigorous lustre, the vessels are enlarged, the breasts swell, the body by a pleasant tickling is insinuated into lust, and the genitals are fenced with new down. But on the other side, after fifty or fifty five, the effluxions of menstruous blood cease, because the heat being weakened is not able any more to generate such plenty of blood as may leave some reliques; of which if there be any, it cannot commodiously drive them away.

The particular time is limited by the space of a moneth, and that by the space of three or foure dayes.

This evacuation of the menstruous blood returns usually every moneth, which all attribute to the motion of the Moon, Empereſs of the humors: and experience informs us, that this purgation is commonly contingent to the more youthful about a new Moon, but to the ancient about full Moon: This caused that common piece of Poetry,

The Moon when old she fils the round,
Old Womens purgaments abound;
But when her horns begin to grow,
From Women young purgations flow.

A COROLLARY.

Hence is moved a notable question, Whether menstruous blood be of a noxious quality? The accurate decision of which see in *Laurentius*, *Quest.* 8. *Book* 8. *of his Anatomy.*

CHAP. III.

Of Conception.

Conception is then said to be, when the seed of both sexes are coupled and cherished in the cavity of the wombe, and their formative virtue is become actual.

MAle and female, while (for posterity sake) they condescend to venereous copulation, send forth their seed together, and at the same time; the male into the neck of the wombe, the female into her proper closet of the womb; which wombe hath an admirable propriety of attracting the seed of the male, wherefore it greedily embraceth it, as soon as it is conveyed out from the mans yard, and entertains it in its proper receptacle. And there these two seeds imbrace one another to an exquisite unition and permixtion, and are straightly retained by the wombe it self, so that the whole body of the wombe by constriction is corrugated, and its internal orifice close shut up, so that it will not admit the least title. Then these seeds are cherished by the heat of the wombe, refocillating their heat and spirit, and

that

that divine plastick virtue is made actual, whence the *fetus* begins to receive delineation.

The signs of Conception are chiefly these;
First, *A slight trembling of the whole body soon after Coition.*
For then the womb is contracted, which contraction is the cause of this trembling.
Secondly, *The Retention of the Seed, and Dryness of the womb.*
If after Coition the seed fall not away, it is a sign of conception.
Thirdly, *The exact shutting close of the bone of the womb.*
Fourthly, *The subsistence of the months.*
Fifthly, *The swelling, pain, and hardness of the breasts.*
Sixthly, *The appetite of Venery enfeebled.*
Seventhly, *Nauseating of Meat.*

Chap. IV.

Of the Delineation, and perfection of every Part.

The first Rudiments of the Spermatick parts, begin to appear the seventh day after conception.

THE formative vertue being excited by the heat of the womb, invests the whole matter of the seed in two tunicles, formed out of the seed it self, and these tunicles are called Chorion and Amnios, the uses of which Anatomists discover. But the other matter of the seed is changed into the Spermatick parts, whose first lineaments are figured to an appearence the seventh day: For if the geniture cast out after the seventh day, be thrown into the water, there will appear in it three bubbles, which are the Rudiments of the three principal parts, and filaments almost infinite, which are the strings of the other spermatick parts.

But all the Spermatick parts are in Males complete in thirty dayes, in Females at forty.

Males being hotter and dryer are the sooner fashioned, for the weaker heat of Females concocts more slowly, and the greater the humidity is the longer time it requires to be condensed to a consistency of the solid parts.

But the Carnous parts in Males are perfect the third month, in Female the fourth, which do then begin to move.

After the conformation of all the spermatick parts, they are bedewed with an influence from the menstruous blood which over-flowes all their intermediate parts, from whence the formative virtue produceth all the carnous parts; which are then finished when the *fetus* begins to move: for this is a sign that the muscles causing motion are now perfect.

CHAP.

CHAP. V.

Of the Parturition.

Parturition is the exclusion of the fetus *after it is perfected and finished in the womb.*

WHen the *fetus* hath arrived to its full conformation, nutrition and accretion in the wombe, not receiving sufficient aliment, and being made vigorous by a greater heat, such as for ventilation, wants the inspiration of the air; it begins to thrust for room, and by kicking forceth its way through those membranes in which it lies invelop'd, and distends the wombe, which upon their irritation endevours to rid it self of this troublesome burden; this causeth a double motion, one of the Childe, labouring its liberty, the other of the wombe, endevouring to enfranchise it. But the Parturition is *natural*, when the infant runs headlong, and turns this part first out of dores, but the rest are preternatural.

But the times in which Parturition may happen are, the seventh, the ninth, the tenth, and the eleventh moneth.

We omit the eighth, becaus the *fetus* doth perpetually in the seventh moneth bestir it self a little, and if it be strong enough it breaks open dore, and out it goes; but if weaker, it remains still prisoner, but so weakened with that foyl, that it wants the space of two moneths to repair its strength so broken. If therefore it break forth the seventh moneth, it is so spent by those new struglings, that death is the necessary consequence thereof. Astrologers ascribe the cause of this to the unhappy influence of *Saturne*, whom the eighth moneth they invest in chief authority; of which opinion, and others relating to the divers seasons of Parturition, advise with *Laurentius, Quest. 19. Book 8. of his Anatomy.*

CHAP. VI.

Of the likeness of Children to their Parents.

Physicians divide similitude into three parts; of the Species, *of the* Sex, *of the* Individuum.

Similitude of the species *is when the thing generated is of the same* species *with the thing generating.*

SO man generates a man, a dog a dog, and so forth.

Similitude of the sex is, when the thing begotten is of the same sex with either parent.

So the male resembles the father in regard of the sex, but the female the mother.

But that likeness of sex depends on the predominating of the Masculine or Feminine seed.

Hippocrates contends, that the seed falling from the right parts, either of male or female, is the strongest and most apt for generation of males: Hence, if that masculine seed flowing from the right be predominant, the issue will be male; but if the feminine bred in the left, be more plentiful, the issue will be female.

The similitude of the individuum *is, when the issue represents in the frame of his body some other* individuum *of the same species.*

So the Childe is stamp'd with the effigies sometimes of his Father, sometimes of his Mother, sometimes his Grandfather, sometimes of some other person.

And this similitude depends not onely upon the formative virtue implanted on the seed, but sometimes also on imagination.

The formative virtue fashioning all the parts of the body, and effigiating them into a form, which is implanted in the seed, with which it was signed by all the parts of the parents, it is necessarily consequent, that as to its form it should bear a similitude to them; to the Father, upon the strength of the paternal; to the Mother, upon the predominancy of the maternal seed. But because some faculty of the Grandfathers, or Great-grandfathers, lyeth occult in the seed of the parents stamp'd on their parts, it happens sometimes that this image is rubbed over in their posterity, which is the cause of their assimilation between them, their Grand-fathers, or other alliances. Hence some are of opinion that this virtue lives to the fourth generation.

Lastly, the strength of imagination is very prevalent in causing similitude: For a woman, if in the time of conception she settles her imagination on the effigies of some thing, brings forth a spawn of the like resemblance. So a certain woman having the picture of an *Æthiope* in her chamber, brought forth an issue wholly black. So many pregnant women when they earnestly long for something, mark their issue with the effigies of it, for such extravagancy of desire disturbs imagination, and imprints on the spirits the shape of the thing so desired, which spirits easily brand the tender infant with that mark.

The Second Book of MEDICINAL INSTITUTIONS,

CONTAINING

PATHOLOGY.

Introductions to Pathology.

In Pathology is considered Mans body deviating from Nature, and faln into a state of Disease.

NATURE is twofold, according to the Philosophers, universal, and particular. The laws of universal nature require generation, corruption, and various alteration, to be strictly observed in bodies, which are therefore obedient to the dictates of this universal nature; but particular nature, *viz.* humane, hath enacted laws proper to the constitution of her own Republick, differing from the laws of universal nature, which if they be cancelled, a man is then thought to decline from nature, *viz.* particular nature. So a certain harmony of first qualities constitute Mans body, together with a due conformation and adunation of the parts; in which, when there happens any distraction, a body becomes preternatural, as shall be at large expounded in the following Treatise. *Observe*, that some (in the front of whom marches *Fernelius*) distinguish things *preternatural* from those which are *contrary to nature*; so that that is preternatural, which though it be illegal in its aberration from the rule of nature, yet it offers no violence to it, as pimples to the face, and the colour contracted from the heat of the Sun: But that is contrary to nature which violently oppoſeth it, and manifestly mutilates its actions. But these two are commonly confounded by Physicians, and used for one and the same.

The state of mans body is threefold; healthy, unhealthy, and neutral.

The Philosophers disavow this division, and affirm, that there intercedes no medium between disease and health: But the Physicians term that unhealthy, or morbous state, when some actions of the body are manifestly out of tune; healthy

when they persist in a symmetry; but neutral, when they are neither manifestly vitiated, nor altogether whole; such a disposition is evidently apparent in those which are in a tendency to, or in a recovery from a Disease; for it was necessary to induce these three constitutions into the Art of Medicine, for two causes chiefly: The *first* is drawn from Medical operations, and the manner of dyet to be instituted to every one; for cure is necessary for the sick, conservation for the healthy; but to bodies neuters, if they incline to disease, preservation; to the recovery from a disease, refection or restauration. The *second* cause is taken from the decretory dayes, which are not to be computed from the beginning of every weakning of health, but from that time in which the sick person hath suffered manifest and notable impediments in his actions, so that he is necessitated to rest; which could not be so distinguished, unless a neutrality of state were distinguished from insalubrity. Yet the difference between Philosophers and Physicians is not so wide that it abhors reconciliation; which may be made, if we say, That the Philosophers Discourse of Disease and Health in a wider sense, as also *Galen* sometimes takes them, so that in this latitude they comprehend the state of neutrality: The Physicians close nearer, and use them more strictly, as the use of Art requireth. For the more copious explication of these three states, I referre you to Galen *in his Ars Parva.*

We must now by course treat of the state of insalubrity, by which means are three considerations: 1 *Disease.* 2 *The Cause of the Disease.* 3 *The Symptomes.*

All that Treatise discourseth of that disposition of the body which is termed Disease. For, that we may attain a perfect knowledge of it, the first proposition must be of its nature, then we must make a search into all its differences, next the causes which produce those Diseases are to be enquired into; and lastly, the effects produced by them will require our contemplation, for the effects of Diseases the Physicians call Symptomes. By this means all Pathology is commonly divided into three *Sections*; in the first of which, the nature of the Disease, and its differences; in the second, the causes of Diseases; in the third, the symptomes of Diseases, are by explication made obvious. But because the consideration of the Crisis is not any where so appositely placed, as in Pathology, being defined by a mutation made in the Disease, therefore we have resolved to adde to our Pathology a *fourth* Section, comprehending the whole doctrine of the Crisis, and Critical dayes, and this we will advance to the second place: So that the *first* shall handle the nature and differences of a Disease; the *second*, the changes contingent in Diseases, of which the chief is the Crisis; the *third*, the causes of Diseases; and the *fourth*, the symptomes.

The first Section of PATHOLOGY.

Of the nature and differences of a Disease.

The First CHAPTER.

Of the nature of a Disease.

A Disease is a disposition of a body preternatural, primarily and by it self injuring the actions.

GALEN *in his first Book of the Method of Healing, and in his Book of the Differences of Diseases,* in a well-contrived and clear method, hath omitted nothing discoverable in the nature of a Disease, whom in this place we propose for our pattern. First then, we deliberate of action it self, which if it be hurt in mans body, we say it is sick; but if whole, and unhurt, we say it is in health. I call that action hurt, which manifestly and sensibly appeareth such; for small harms, and imperceptible by the sense, are excluded from this place. Moreover, action being a motion, and having no permanent essence, onely so long in being as it is doing and performing; therefore it implies a necessity of a constant and permanent cause: But this cause is a corporeal instrument, which exerciseth the action, as the Eye seeth, the Stomach concocteth. But because one and the same instrument doth not alwayes exercise in the same manner its operations, but sometimes unhurt, and according to nature, sometimes hurt, and beside nature, it will necessarily follow that the constitution and disposition thereof is various: Hence, if it be disposed according to nature, the body will also be naturally disposed, and exercise actions conformable to nature: If therefore the body be in health, when being naturally disposed, it produceth perfect actions; it will be diseased, when it being disposed beside nature, it exerts actions imperfect, and so this detriment of actions will depend upon this preternatural disposition. This definition therefore perfectly opens the intricacie of a Disease, and is compleat, bearing in his bulk a genus, a subject, a cause, and an effect; the genus is the disposition, which being not circumscribed by the limits of any difference, is predicated not onely of a Disease, cause of Disease, and symptomes thereof, but of health also; the subject is mans body; the cause effecting the Disease is the discomposure of the symmetry of the parts, or an excess overflowing the proper and natural constitution, which by that terme [Preternatural] is demonstrated. Lastly, the immediate effect of a Disease is an ingredient also of the definition, which is the detriment of actions, which perpetually attending the Disease, and being obvious to our senses, discovers the secrecie of it, deceiving otherwise the quickest glance of sense.

This definition being laid as a foundation, the superstructed theorems will illustrate the nature of a Disease.

Disease is placed in the predicament of quality, and the first species thereof.

The first species of quality is habit and disposition; for though we called Disease by the name of disposition, which is a flitting quality, and easily deserting the subject, according to *Aristotle*; yet here we stretch it to adequate a little wider sense, that it may comprehend habit also, and so that whole first species of quality.

But some may *object*, That Disease should be placed in divers predicaments: for magnitude increased seems to be aptly referred to quantity, the stone and maw-wormes to substance, and so of the rest; but all these *Galen* himself calleth Diseases. To this *I answer*, That all diseases are formally placed in the predicament of quality, but may fundamentally be reduced to others, as by those nearer causes, which are contained under other predicaments (of which sort are the stone, maw-worms, magnitude increased, number exceeding or deficient, and such like, which are as it were the foundations of diseases) a certain disposition is introduced, constituting the true form of disease, but the predicament only respects the form.

For those things which are placed under other predicaments, as the stone, maw-worms, *&c.* are by *Galen* and others, for perspicuity sake, called diseases, as also for the insufficiency of names, by which those dispositions may be signified: and because it was satisfactory to the Physician intending curation to understand the nature of that thing, which being taken away the whole preternatural disposition and detriment of the functions would be taken away also, not that to the accuratness of Philosophical inspection they would appear true diseases, but rather causes, which often accompany us, without any evident hurt of the functions; and the stone, maw-worms, and the like, cannot injure us before they be abetted some by disposition in our bodies as obstuctrion, or divulsion.

It may again be *objected*, That the fit place for disease is in the predicament of relation, which is gathered out of *Galens* words in the *beginning of his book of the difference of diseases*, where he saith, That health is a kind of symmetry, disease an ametry; but symmetry and ametry speak nothing but relation, which *Aristotle* also seems evidently to confirm, 7. *of his Physicks Chap.* 3. where he teacheth that disease and health are relations. To that *I answer*, That though disease be termed ametry or immoderateness, this proves it not to be a relation; for as deformity is a kind of disproportion of the parts, yet handsomness and deformity are true qualities: So Disease is a disproportion of the heat, cold, moisture, or dryness, or of the parts; yet it is no relation, but a certain quality or disposition, by means of which the whole body is disaffected. Yet if a confession must be extorted, that there is found in Diseases some relation, that we may pay due obedience to the dictates of *Aristotle*, we say, that this is caused, as those qualities, *viz.* health and disease, are mutually compared, according to their access to, or recess from mediocrity; such a relation is found between extreme colours, and between virtue and vice, which no man will assert to be simple relations, which may be accidental to subjects, without any mutation of them.

Every disease hath a permanence in the part, and permanence is of the essence of disease.

Disease is defined by a Diathesis or disposition, which term signifies to us a certain position of its essence or parts, or constancy in the body, by which it is distinguished from a simple affection, called a patible quality, and is the third species of quality. And this constancy is called permanency, *viz.* a disposition so stamp'd upon the part, that its essence is different and separate from the cause producing it, an independent on it: and those things which have a permanency, are by Physicians termed things made, or in fact, but those which have no permanency *esse in fieri*.

But

But it may be *objected*, That an ephemeral feaver, and other slighter affects, and some also more dangerous, as the epilepsie and apoplexy, have but a small duration of time in the body, and so they may seem to have no permanency. *I answer*, Permanency looks to two relations, either *to time*, which signifies duration, and so it is not of the essence of disease, because the duration of many diseases is but short; or it may be referred *to the existence* fix'd and stable, which signifies a certain position of the essence and parts which all diseases have in the body, though the time of some be soon determined. Again, it is *objected*, Diseases are by consent in a possibility, and owe their existence to the communication of simple humors or vapors, which ceasing, they also cease: But these are by *Galen* numbred amongst true diseases, therefore all diseases have not a permanence. *I answer*, That diseases by consent cannot last long, but that it will follow that from their causes an idiopathy should be introduced in the part; which though it be small, hath alwayes something of the fact sufficient to constitute a true disease: But if the sympathicall affect be yet so small, that it hath no consistency in the part, nor requires any peculiar cure, but dies by the taking away of the primary disease, then *Galen* himselfe excludes it from the true nature of a Disease.

It is again *objected*, That diseases by the general suffrages of all Physicians, have four times which are in a perpetual flux, *viz.* beginning, augmentation, state, and declination: Diseases therefore being continually in motion, can have no permanency. *I answer*, The ages and times of diseases respect their motion and various constitutions, but not their generation and essence, which persists fix'd and constant; as the nature of man is preserved in the same state, though in him variety of ages toules on variety of change; so diseases now made, and generated, run on their time, in which they are variously affected.

Lastly, some *argue* thus, To have permanency, and to be in fact, falls under the same understanding with Physicians, as is before intimated: But of all Feavers the Hectick onely is in fact, for this condition affords it a distinction from the rest, which are said to be onely in a tendency: Therefore the other Feavers have no permanency. *I answer*, In all diseases there is something which makes them such, from which they produce their generation; but the morbifick cause, *viz.* the putrid humor, perpetually acteth in feavers, and multiplyeth that morbous quality, therefore they are said to be in a possibility, till they arrive to an Hectick, *viz.* when the cause rests from action, by reason of an equal intemperateness introduced, and then they are simply called *in fact*; but the rest partly *in fact*, partly in a possible tendency thereto.

The necessary consequence of every disease is action by it self, and immediately hurt.

Diseases are not seldome occult from the senses, yet all of them are understood by symptomes, which are their effects, and most of all by labefacted action, which immediately and by it self depends upon disease, and so essentially, that if we assert action hurt, we necessarily imply a disease, on which it hath dependence.

But it may be *objected*, That action is often hurt immediately, by the very morbifick causes; for aliment too copiously burdensome to the ventricle is hurtful to concoction, without the interposing of a disease: Therefore all action hurt depends noton a disease.

I answer, That the coction of the ventricle is not therefore hurt, because it cannot concoct a great plenty of aliment; for it being requisite that there should be a certain

certain proportion between the Agent and Patient, for the right exercise of action, if the Aliment be too copious, or of quality troublesome, the action of the ventricle is not hurt, though it cannot master it, as it is not troubled, though it cannot concoct Iron. This defect therefore depends on the disproportion of the object.

It is again thus *objected*, Some symptomes may primarily and by themselves hurt action, as the quality changed in the eye, *viz.* the yellow colour of the *cornea tunica* of men troubled with the Jaundies, caused by the effusion of yellow choler into it, which immediately produceth sight; for they can discern no colour but their own; but no disease can be impeached of such treason against the eye. Therefore that colour which is the symptome, doth immediately injure action. *I Answer*, in the eye peculiarly a preternatural colour may be termed a disease, for the eye in its natural constitution, ought to be without any colour, that it may be the fitter for the reception of the *species* of external objects pure and inconfused, and their various colours: for that colour of the eye may be referred to diseases in number, because the number of qualities, which ought naturally to be in the eye, is increased. The same may be held of an extraneous taste in the tongue, and sound in the eare, which are impediments to the due perception of taste, and sound; hence it appears, that in these peculiar instruments of sense, peculiarly constituted, we may admit a peculiar kind of disease.

Here ariseth lastly cause of *objection*, That in Sympathetick affects the actions of the parts are hurt without the violence of any disease, for if a disease were in the sympathizing parts, we should endeavour remedy for the which is not done, neither when the action of the nerves is hurt by the obstruction of the brain, can we impute a disease to the nerves, but only to the brain. *I oppose* to this, That Therapeutick Physicians number not the sympathetical affects with the diseases, because we apply no remedies to them; but if we consider more seriously, we shall find they may be referred to some *genus* of disease, *viz.* the influence of animal spirits into the nerves is block'd up by the obstruction of the brain, by the defect of which, motion and sense decay: but this defect may be reckoned among diseases, in the number of deficients, and so we may hold of many others.

Chap. II.

Of the Kinds and Differences of Diseases.

Hitherto of the Nature of disease, it follows now, that we discourse of the Differences thereof.

Galen confounds the *genus*, *species*, and differences of diseases, *in 2. of his method*, and useth them for one and the same, for he is not precise in their strict, and logical consideration, though either of them may be truely predicated in a diverse respect, *viz.* in relation to the disease it self, which is the principal *genus*, they must be called *species* or differences, in relation to the subordinate *species*, into which they are subdivided, they are honoured with the Title of *genus*.

But the differences of diseases are some essential, some accidental.

The Essential are taken from the very essence of the disease, and are otherwise called specifical, because out of them the genus *and* species *are constituted: But they are three,* viz. *similar, organical, and common.*

The

The whole essence of accidents depends upon subjects, therefore their essential differences must be derived from the differences of their subjects; but the subjects of diseases are the parts of our body, which are properly called such, *viz.* which cohere to the whole mass, and partake of life in common: for although by *Hippocrates* the parts be divided into *the containing, the contained, and those that cause motion*; where by the containing, he understands the living parts designed for the exercise of actions; by the contained, the humors; by those causing motion, the spirits: there the name of part is tentered to the widest sense, for nor humors nor spirits can be the subjects of diseases, nor do they communicate of life, but they are rather the causes of diseases, when they are extravagant in quality or quantity. Therefore seeing those living parts branch out into two differences, *viz.* similar and organical, diseases also shall be divided into similar and organical: but becaus in both the forementioned parts, there is required another common disposition, besides their due temper and conformation, that they may behave themselves according to the rule of nature, *viz.* a natural continuity or union of these parts, the corruption of which is the generation of another *species* of disease, termed Common.

CHAP. III.

Of the species *of a similar disease.*

Every similar disease is called Intemperancy.

THE similar Parts are composed of Elements onely, and their actions are executed by the symmetry of the foure first qualities, and the allaying them to a due fixation of temper. For the similar Parts, as similar, are voyd of any action, nutrition excepted, by reason of which they retaine convenient aliment when it is attracted, concoct it, and thrust out superfluities, all which are in them performed by the temper alone. As long therefore as a due temper is preserved in the similar parts, they regulate themselves according to nature: But when they are intemperate, they are in a morbous condition, and so every disease affecting the similar parts, will be intemperateness.

But intemperateness breaks out into other differences, of which some are essential, some accidental.

Again, the Essential are some simple, some compound; the simple are foure; 1 Hot, 2 Cold, 3 Moist, 4 Dry.

The Compound are the same in number; 1 Hot and moist, 2 Hot and dry, 3 Cold and moist, 4 Cold and dry.

These intemperatures are called morbous, when they swell to such an excess, that they do manifestly hurt the actions, otherwise they confine themselves to the prescripts of health; for instance, though a man of a bilious temper be hotter and dryer than is convenient for the moderation of a fit temperament, yet as long as in the exercise of his actions he is not irregular as to the prescript of his innate temperament, he is not said intemperate to disease, till transgressing the proper limitation of health, he falls, for example, into a feaver, or some other hot affect.

The accidental differences of intemperateneſs are taken from the cauſe, or from the ſubject.

Though we have omitted the Treatiſe of the accidental differences of diſeaſes, till we put an end to this Section, yet becauſe they do properly belong to intemperateneſs alone, therefore it will not be inconvenient to bring them upon this ſtage.

In reſpect of the cauſe one intemperateneſs is called Material, the other Immaterial.

The Material intemperateneſs is that, which comes in the company of an internal cauſe, *viz.* Humor, Vapor, or Wind, as it happens in humoural Feavers, inflammations of the parts, and infinite others, and that *Galen* is termed intemperateneſs with the affluxion of humors; but the immaterial which is alſo called a naked intemperateneſs, is that which is produced by an exterior cauſe, with the concurring help of the interior. This is not ſo frequent as the other, and very ſeldome happens, yet it may be found in a Maraſmus, a great refrigeration of the parts being contracted in cold water, or by a very cold Northwind, or in the Head-Ach, contracted by violent heat, and the like.

In reſpect of the ſubject, one Intemperateneſs is in the Habit, another in the Habitude.

Intemperateneſs which is in Habit, or which hath contracted habit, and is thereby confirmed, is alſo called *Hectick*, which doth ſo firmly inhere, that it is indeleble, it is alſo ſaid to be wholly conſummate; of this kind are the Hectick Feaver, and the leproſy; but that which is in habitude, or diſpoſition, is onely *inchoate* and ſtill in its primordiums, or at leaſt part produced, part unproduced, and eaſily deleble, as vulgar Feavers, and other diſeaſes without difficulty curable.

In reſpect alſo of the ſubject, one intemperateneſs is Equal, the other Unequal.

Equal intemperateneſs is that, which is equally diffuſed into all the parts of our body; ſo an hectick Feaver is an equal intemperateneſs, becauſe all the parts are over-heated in the ſame degree. But Unequal intemperateneſs is that which is not equally diſtributed to the parts of our body, ſo we call putrid Feavers unequal diſeaſes, becauſe in them the ſolid parts are not plainly heated, as the humors which heat hath wholly penetrated; ſo the feavers termed *Epiala* and *Lypiria* are called unequal intemperatures, becauſe in the *Epiala*, heat and cold are together felt all the body over, but in the *Lypiria*, the exteriors are ſtiffe with cold, the interiors parched with heat.

A Corollary,

Concerning Similar Diſeaſes.

It is *in the front* objected, that there is no poſſibility of a ſimple intemperateneſs, becauſe it would be either joyned with the matter, or ſtand apart from the matter; it is not with the matter, becauſe ſuch intemperateneſs depends upon ſome humor, but every humor is doubly qualified; but the immaterial proceeds from external cauſes; and they are the elements, every of which hath two qualities, or mixt bodies, which have alſo two qualities by the predominant element. *I anſwer*, That upon a due contemperation of qualities, the exceſs muſt be in one onely, when there are two cauſes internal and external joyned, which agree in one quality, are contrary in another; as when a diſeaſe is generated from blood and choler, the dryneſſe of the choler is tempered by the moiſtneſs of the blood,

and

and there is no excesse, but both joyning the forces of their heat, effect an hot intemperateneſſe, the ſame is plain in external cauſes; for if the air be temperate to an hot and moiſt temper, and the aliments be cold, and moiſt, the coldneſſe of them, with the heat of the other, will cauſe contemperation, but the moiſtneſs of both will produce a moiſt intemperateneſſe. It is again *objected*, that there is no ſuch thing as a hot and moiſt intemperateneſſe, becauſe heat and moiſture are the principles of our life, and ſo they cannot be in conjunction diſeaſed. Again, that heat muſt be very intenſe, that it arrive to morboſity, but intenſe heat doth powerfully prey upon moiſture, and ſoon ſummons in its mate ſiccity, and ſo a hot and moiſt intemperateneſſe cannot together ſubſiſt: ſo we may ſay of cold intemperateneſſe, which generating great crudities, brings humidity plentifully into the body; hence it ſeems inconſiſtent with ſiccity. To theſe *I anſwer*, That heat and moiſture are convenient for the principles of our life, yet if they do ſo far tranſgreſſe, that the humors ſhaking off their allegiance to nature, and not admitting ventilation, do neceſſarily putrifie, which uſhers in preternatural heat, and that meeting with plenty of moiſture, cauſeth a hot and moiſt intemperateneſſe. Beſides, exceſſe of heat conſumes indeed humidity, but not ſo nimbly, and therefore that ſpace of time is ſufficient for the generation of moſt violent diſeaſes; as appears in bloody feavers, in which at the beginning there is plenty of moiſture, but upon their permanence, they call in the auxiliaries of a dry intemperature. In the ſame manner, a cold and dry intemperateneſſe ſpends time before the acquiſition of a moiſt, by crudities. And though the effluxions of the excrements be copious, yet the ſolid parts retain their dry intemperateneſſe, as is ſeen in old men. The propoſed differences of diſeaſes, and thoſe alone Antiquity with a general conſent imbraced, which have alſo found entertainment with almoſt all Neotericks, excepting *Fernelius*, and ſome ſiders with him: For *Fernelius* hath brought to light two new kinds of diſeaſes, one related to the matter, the other to the form, or the whole ſubſtance. For, ſaith he, three things being conſidered in the ſimilar parts, matter, form, and temperament, the natural conſtitution of them being health, ſo the immoderateneſſe of every of them will be diſeaſe. And hence reſult three differences of diſeaſes, *viz.* intemperatures, by the exceſſe of the firſt qualities; the immoderateneſſe of the matter is, when a part becomes ſofter or harder, looſer or cloſer, thinner or more craſſe, rarer or denſer; and the vitiating of the form is, when either by manifeſt diſeaſes, as by putrefaction; or by occult, as poyſonous, contagious, and peſtilent, the whole ſymmetry of the body is diſturbed.

Fernelius *in his* 1. *Book of his Pathology, chap.* 7. hath onely propoſed this his opinion, yet hath ſtrengthened it by a long diſputation *in his* 2. *of the hidden cauſes of things, chap.* 9. which becauſe it is famous, being born up by the authority of ſo learned a man, and hath wrack'd the wits of many, we will therefore enter the liſts in a ſhort diſpute with him. The reaſons then by *Fernelius* alleaged to confirm his opinion, may be comprehended in the following diſcourſe:

Firſt, Diſeaſes uſually poſſeſſe thoſe by which the actions are performed: But there are three things in a ſimilar part, which execute the actions thereof, *viz.* matter, forme, and temperament, therefore this will be the place of Diſeaſe.

Secondly, The ſame is confirmed by the various detriment of actions in one and the ſame part; for the ventricle, as a ſimilar part, is often infirm, by which the concoction is weakened: but this infirmity is ſometimes cauſed by immoderate refrigerations, as by over much drinking of water, eating of lettice, and the like;

sometimes by relaxation, as by taking in hot oyle, and the like; and lastly, by extraneous and poysonous qualities, which invade the strength of its form. Therefore there must be three distinct kinds of diseases.

Thirdly, this seems to be convincible from the remedies themselves: For there are three kinds of remedies of *Galen*'s own constitution, *viz.* some which alter only in the first qualities; and these are applicable to the intemperateness in diseases: but some, whose affects are astriction, relaxation, attenuation, incrassation, and these heal diseases in the matter: Lastly, some there are whose action proceeds from their whole substance, and an occult propriety, and these are used to cure the diseases of the whole substance.

Fourthly, in a Gangrene, Leprosie, and malignant ulcers, the whole substance of the parts is corrupted: Therefore that there are diseases of the whole substance is undeniable.

But in our judgement those reasons are not so weighty, or of validity enough to force us to a multiplication of the anciently confirmed differences of similar diseases. We say therefore, that this opinion of *Fernelius* is not to be entertained, and before we answer the objections brought, we will confute it as followeth.

First, Disease is an affection of the whole similar part, as such: Therefore the matter and form cannot be said to be diseased, but the whole frame; for intemperature alone is the proper affection of the whole similar part.

Secondly, All action of the similar part is natural: but all natural actions are only foure, attraction, retention, concoction, and expulsion, which depend upon the temper only. Therefore there will be but one disease of a similar part, *viz.* intemperateness.

Thirdly, All diseases have the force of action, *viz.* the action of hurting. But in the matter there is no action, for it is a passive and potential principle, therefore there is no disease of the matter.

Fourthly, If there were a disease of the form, the definition of a disease given with the consent as well of all the ancients, as Neotericks, would be erroneous, which they assert to be a disposition of the body: But the form is incorporeal: Therefore not subject to disease.

Fifthly, If there were diseases of the form, infinite absurdities would follow, *viz.* that the form may suffer by it self, may be generated and corrupted, may be increased and diminished, may have a contrary, all which Philosophy abhors as inconsistent.

Lastly, If the corruption of the form, or the whole substance, be a disease, it must be considered, either in its end, and absolute, or in a tendency, and not yet consummate. If absolute, it is nothing else but the abolition and total destruction of the creature: If not yet perfect, but in motion to it, it will be an alteration, onely preparing way for corruption, and so a quality constituted in intemperateness. And so this opinion of *Fernelius* is convincingly refuted. To the *reasons* brought to fortifie it, we give this *answer*. To the *first* we say, That the concurrence of matter and form is not requisite for the perfection of actions, but onely for the constitution of the *compositum*, for actions proceed from the composed, not the composing, but the *compositum* operates according to the disposition found in it; And this disposition in a similar part, is the temper only.

To the *second*, *I answer*, That the action of the ventricle is not purely similar, but proceeds partly from the temper, partly from the conformation and structure of it, for the alteration and coction of the aliments cannot rightly be performed, unless they be duely contained and inclosed by the ventricle: But this retention, or

coarctation

coarctation depends upon the ventricle, formed in this or that manner. As often therefore as the ventricle is refrigerated, so that it cannot concoct, there is an intemperateness, or a similar disease; but when it is so relaxed, that it cannot contain, there is an organical disease: Lastly, when the action of the ventricle is infirmed by venemous things, there is some intemperateness, because the implanted temperament of that part is corrupted, and that intemperateness is called malignant, or venemous, as shall after be shewed.

To the third I answer, That those second qualities do immediately depend upon the first: so adstrictives are cold and dry, relaxatives hot and moist, and so forth: But those which operate from the whole substance, perform it by occult qualities, which are referred to the temper.

To the last I answer, That intemperateness is twofold; one vulgar, the other malignant; as shall be shewed in the Accidental differences; but the proposed affections may easily be referred to malignant intemperateness.

CHAP. IV.

Of the Species of an Organical Disease.

The species of an Organical disease are foure: 1 *In conformation*, 2 *In magnitude*, 3 *In number*, 4 *In conjunction.*

AS by the similar parts, similar actions, so by the organical parts, organical actions are exercised, which that they may conform to nature, they require foure conditions, *viz.* due conformation, magnitude, number, and conjunction; from which if there be a recesse, there will be an accesse of disease: Hence arise as many differences in organical diseases.

The diseases of conformation have again three species; 1 *In figure*, 2 *In asperity and levity*, 3 *In passage and cavity.*

Disease in the figure is, when the natural figure of the parts is so changed, that the actions are thereby hurt.

The figure of the parts may many wayes be changed, *viz.* when those which Nature hath beautified with straightnesse are incurvated, when the crooked are straightned, others are turned, the round are distorted, & become square, & so forth.

Disease in asperity and levity is, when the parts which are naturally of a rough or rugged impoliteness, become smoother; or on the other side the smoother become rougher.

For instance, when the ventricle and intestines being burthened with mucous flegme are troubled with *Lienteria*, this disease is in levity; but when the *Aspera arteria* being exasperated by distillation from the brain, contracts hoarseness, the disease lies in asperity.

Disease in the passage and cavity, is when the natural constitution of the passages and cavities is destroyed.

Of this again there are three species; 1 *Astriction*, 2 *Obstruction*, 3 *Dilatation.*

Astriction is caused when a passage or cavity is crouded up by an external cause, and becomes narrower.

So when the *Æsophagus*, and the *Aspera arteria* are pressed by the Quinsie, and the bladder is forced together, by the burden of a great childe lock'd up in the wombe, that disease ariseth which is called astriction.

Obstruction is produced, when some preternatural matter takes possession of the internal cavities, and stops up the passages.

So the stone is bred in the bladder; when thick, viscid, and clammy matter, blocking up the interiour veins of the liver, milt, and other parts, and the free passage of humors, and the like, causes an obstruction.

Dilatation proceeds from the amplitude and wideness of the cavities and passages.

Dilatation is contrary to astriction and obstruction; we have an example of it in the dilating the ball of the eye, and in the crooked veins, as also in the anastomasis and diapedesis of the veins. For an Anastomasis is caused when the orifices of the vessels are too much dilated; but diapedesis, when their tunicles are too much relaxed and rarefied, that they easily yeeld to the effluxion of the humors. To dilatation also is referred the excessive laxity of the ventricle, so that it cannot conveniently embrace the Aliment, which *Fernelius* unadvisedly placed with the diseases of the matter.

The diseases of magnitude are either in the Augmentation, or diminution thereof.

Both are either in the whole body, or in some part of it; in the whole body, magnitude is increased, or diminished, when the whole bulk is to extremity encreased or diminished.

Galen presents us with an example of encreased magnitude in the whole body of one *Nicomachus Smyrnæus*, who by reason of his excessive grossenes could not possibly move himself. Diminished magnitude is apparent in atrophy, and hectick Feaver, in which the whole body pines away with leaneſs.

Magnitude is increased or diminished in some part, when it exceeds, or recedes from the dimensions allotted it by nature.

So a preternatural tumor in a part is magnitude increased: so also the defect of a part in longitude, latitude, or profundity, as of the Tongue, Nose, Finger, the testicles, or a notable smalneſs of some other part, is diminished magnitude. For the occasion of this smalneſs, is either by generation for want of matter; or after generation, and that is again two-fold; by defect of Aliment, whence ariseth the atrophy, and consumption of the part, or the depriving the parts of their substance, as when a part of the nose, tongue, or finger is cut off.

Diseases in number are, either in excesse, or in defect of Number.

A definite number of the similar parts is necessary to constitute the organical, and in the greater, and more composed, the concurrence of a certain number of lesser organs and lesse composed is requisite. But by their excess any way, or defect, they cause disease, which is termed a disease of number increased, or diminished.

Number exceeding is either of those which are regulated by nature, or which are in the latitude of their genus *preternatural.*

They are said to be according to nature, in respect of the substance from which they derive their original, which substance is natural, and they only erre in this that they conduce not to the exercising of the functions of the part; but hinder them, as a sixth finger, an excrescence of flesh in an ulcer, and the like. But preternatural as to their whole *genus* are those, which are composed of a substance wholly preternatural, as maw-worms, the stone, *&c.* which are referred to diseases in number, as they are things of a preternatural superaddition, vitiating the structure of the organ, and by its presence hindering the functions thereof; otherwise if they injure not the actions, but produce obstruction, or the like affection, they are taken rather for the causes of disease, as we have before observed.

Number deficient, perpetually consists in natural things, or in the parts of the body, contracted either from the womb it self, or after the desertion thereof.

Disease

Disease in deficient number, contracted from the very birth, is so called, when, for instance, any one s born mutilated either in the Foot, Hand, Eye, Testicle, or any other part; but after birth, upon the amputation of some part, as when the foot, or arm infected with a gangren is chop'd off, the testicles are fallen by a rupture, a rotten tooth is pulled out, and so of the rest.

Diseases in conjunction are two-fold; in Situation and in Connexion.

Diseases in Situation are, when the parts which ought to cohere, fall off from their proper Station.

These diseases are obvious in a rupture, when the intestines or the cause descends in the Scrotum, so in the falling of the Anus or the womb, and the like.

Diseases in Connexion are, when the parts which should cohere, stand at a distance, or on the contrary, those which should separate, cohere.

Such affections appear in luxations, when the connexion of the bones is perverted and in imperforate parts, as also when the eye lids, or the lips, are united, which should naturally be separated.

A COROLLARY,

Concerning Organical Diseases.

It is first objected, That the number of organical diseases before a laid down is incompleat, because their differences are not taken from all those things, which are necessary for the performance of organical actions. But besides those now mentioned, there are many others concurring: for the instrumentary parts, want the influence of heat from the heart, *viz.* blood and well affected spirits, whereas when they are hurt, or wanting, all the actions of the body are out of tune, as appears in a syncope, trembling, starkness, *&c.* From them therefore we may constitute another *species* of organical disease. *I answer*, in the proper constitution of every part, the common instruments are to be distinguished, which are necessary in all actions of the organick parts: for they are not peculiarly considered in either, but as vagrants, and wanderers are excluded from the number of the parts of the living body, or we may assert, that the affections issuing from the vitiosity of them are not idiopathetick, but ought only to be referred to the sympathy of the negative matter, or faculty.

It is secondly objected, That besides the aforesaid conditions ingredieut to the constitution of organical parts, there is a symmetry of them requisite, for if the foot, or the hand, which ought to be conflated of bones, nerves, and ligaments, are wholly osseous, or carnous, the structure of them is bad, though they are rightly framed as before is said. *I answer*, if an organical part which ought to be composed of many instruments, be conflated but of one, this is a disease in the deficient number, nor need we make search after another diverse *genus*.

It is lastly objected, That the actions of organical parts are offended, by the qualities themselves, as well first as second: for example, the harder, or softer, crasser or thinner parts, are made more unfit for sense or motion, as *Galen* is of opinion, that the crassity of the brain is very noxious to sharpness of wit, but the tenuity thereof very commodious, so the laxity of the ventricle is inconvenient for concoction, the *cornea tunica* of the eye, being too rare, or too thick hinders sight, and so of the rest: hence it appears that these qualities also ought to be added to the number

number of organical diseases. *I answer*, That diseases consequent upon the change of qualities, cannot be attributed to the organical parts, as organical, but as they are compounded of the similar parts, as their matter; for a due symmetry of the similar parts must concur to the constitution of an instrumentary part; and the temperament of the similars must be supposed to be as well in the first as in the second qualities, therefore the disproportion of them must not be laid to the charge of the organical part, though it injure the actions thereof, because it is accidental; as an house falls, when the wood or stones are rotten, or corrupted, though they are not formally related to the house.

This *answer* may again be thus *opposed*, That there is as much reason, those second qualities, hardness, softness, and the rest, should be referred to the diseases of the organical parts, as asperity, and lævity, which are also in the number of the second qualities, and were by us reckoned amongst the diseases of conformation. *I answer*, That the reason holds not the same; because hardness, softness, and the rest, are not changed but upon the change of the temper it self; but asperity and lævity, which are affections of the superficies only, do so depend upon the formative faculty, that without any diversity of temper, it produceth some smooth and equal, some rough and unequal; as appears in bones, which are most dry, and yet of a very even superficies, and in the ventricle, whose external superficies is even the internal, rough and rugged: and so of the rest.

Chap. V.

Of the Differences of the Common Disease, or solution of the continuum.

The Differences of the common Disease, or solution of the continuum, are taken from the cause, or the subject.

The causes from which the solution of the continuum happens are four: to the first, things thin, and convenient for section are referred; to the second things sharp, and fit for Erosion; to the third things heavy, hard, and dull, to the fourth things fit for ruption, and divulsion.

The solution of the continuum which is caused by cutting things is called Section.

UNder this are comprehended all solutions of the continuum, produced by the incision of external causes, either with point, or edge in any part of the body.

The solution of the continuum proceeding from things sharp and eroding, is termed Erosion.

Erosion is most usually produced in the parts of the body by internal causes, as by sharp and biting juyces causing ulcers, it is produced also sometimes by external application, or things actually burning, as by fire, hot iron; or potentially, as caustick medicines, and the like.

The solution of the continuum caused by things heavy, hard, and dull, is called contusion.

This solution of the continuum, is not usually manifest, but hidden: for in it the parts

parts are dashed together, and violently pressed, which compression causeth an occult solution of the *continuum*.

The solution of the continuum *proceeding from things breaking and divulsive, is called ruption or divulsion.*

This is often seen in torture, in which the toes and the fingers are so distracted that they are quite separated from the other parts; so by over-reaching the *peritonæum* is usually burst, which is the cause of a rupture. Sometimes also by an over-repletion of blood the tunicles of the veins are divuls'd, whence flows an immoderate flux of blood.

In respect of the subject, or the parts of our body, divers differences of the solution of the continuum *are constituted, and divers names are imposed on them. For incision made in the flesh is called a wound, but erosion an ulcer. A transverse incision made in the bone is a fracture, a direct a fissure, but erosion is called putrefaction. A transverse incision made in the veins, arteries, nerves and gristles, retains the same name of incision, and a direct of a fissure. The* species *of peculiar solution is puncture, chiefly attributed to the nerves, but rupture to the membranes.*

In all Chirurgical authors, those differences of solution are contained under the term of Wounds, Ulcers, and Luxations.

Chap. VI.

Of the Accidental differences of diseases.

The Accidental differences of diseases are those which constitute not the genus *and* species *of diseases, but only clear the way to the understanding of some of their proprieties.*

THE Accidental differences proposed by Authors are almost infinite, of all which it would be too tedious to institute a Discourse, and perhaps in our judgement of small use. We shall therefore serve those to you here which are more requisite to the use of Art, and more frequently occurre in the Treatise of Diseases.

But they are derived either from the essence of diseases or proprieties attending it, or from the causes of them.

The essential differences of a disease flow from the very essence thereof, as was before declared; but the accidental differences spring from some proprieties associating with the essence of the disease, as also from the causes and effects. But we will here offer those onely which proceed from the essence and causes, omitting the rest, as in themselves common to vulgar capacities, and of little use.

The proprieties which are companions of the essence of diseases, are first, Magnitude; secondly, Motion; thirdly, the manner; fourthly, the event.

1. *In respect of magnitude, a disease is said to be great or little.*

That disease is great, which is very intense, and is very prevalent in the perturbation of our body. But that is termed little, which deviates but a little from the natural constitution, and induces but a small infirmity on us.

Galen affirms that a disease is called great for three reasons: *First*, in respect of the part, if it affects a principal part, or one necessary to the conservation of life: *Secondly*, in respect of the causes, *viz.* if they be very violent and furious: *Thirdly*, in respect of the symptomes, *viz.* if the body being stormed by this fierceness and violence, be much oppressed.

2. *In respect of motion, there are foure times of diseases considerable, the beginning, increase, state and declination. The beginning of a disease is when it is constant to the same distemper with which it was at first produced, without any notable access of augmentation. Increase is when the disease is sensibly seen to increase. State is, when the disease is beyond augmentation, and reserves the same violence, which was left at the highest pitch of augmentation.*

Lastly, declination is when the violence of a disease is evidently broken.

The division of the times of diseases, is by *Galen* not drawn onely from the essence of the disease it self, but also from the causes, and symptomes, *viz.* when from the beginning they increase to higher inflammations, till they arrive to a state, and in declination are mitigated; and chiefly from the excrements, which are at first a very crudity, in increase present a kind of a rudiment of coction, in their state give strong evidences of coction, and in their declination shew absolute concoction, and a change of excrements into better.

But the times of diseases are universal or particular.

The universal times are parts of the whole disease, considered from the beginning to the end.

But the particular times are the parts of paroxismes, apparent in intermissive diseases.

So the paroxismes of every disease have beginning, augmentation, and declination, as the whole disease considered in its whole flux of time.

Observe that all diseases have not foure times, but onely healthy ones, for deadly alwayes kill before declination.

In motion the quantity and manner are considerable.

In respect of the quantity of motion, or duration, one disease is called long, another short.

So a day-expiring feaver is a short disease, because it is quickly at an end; as dropsie long, because it persists a long time.

In respect also of the quantity of motion or duration, one disease is called acute, another chronical.

Acute disease is that in which magnitude and brevity are companions.

Therefore it moves nimbly with vehemence and danger. The Chronical is commonly opposed to this, though it be not totally contrary to it: For Chronical and Long speak the same, and it is so called, only because it is of long continuance, although it be usually great, as the palsie, dropsie, and the like, to which the short ones are truely and properly opposed.

Observe, That some diseases are in respect of their proper essence Chronical, in respect of their paroxisme Acute, as the Epilepsie, which is a disease very long, and hath paroxismes very acute.

Acute disease is threefold; the first peracute, the second acute simply, the third acute by dilapsion or decidence.

The Peracute is again divided into extremely peracute and simply peracute.

Extremely peracute is that which is so vehement and swift in motion, that the third or fourth day it ends either in health or in death.

Simply peracute, determines the seventh day.

But acute simply so called, is either exactly, or not exactly such.

Exactly such ends with the fourteenth day.

Not exactly such continueth to the twentieth, or further.

Lastly, acute by decidence reaches the fortieth day; and after its arrival to that, it is called a long and continuing disease.

And these are the differences hewn out from the quantity of motion: those follow to be proposed, which result from the manner of motion.

In respect then of the manner of motion, some disease is called continual, some intermissive.

Continual disease is, which troubleth without cessation, and in its whole duration is impatient of mitigation, by any intervening pause.

But intermissive is that, the fury of which in its career, is usually allayed by perfect intermissions.

And so much of the Motion, now follows the manner of Disease.

3. *In respect of the Manner, a disease is called gentle, or malignant.*

A gentle disease is that which is very remiss, and induceth no dangerous symptomes.

But that is malignant, which comes accompanied with some malignant and venemous quality, attended by dangerous symptomes.

Malignant is again threefold; the first venemous, the second pestilent, the third contagious.

A venemous disease is that which is intimated with a quality that is a desperate antagonist to our life, produced by assumption or application of poyson, or from noysome humors internally generated.

Pestilent disease is that which is malignantly and deleteriously qualified, and is impartial to all.

Lastly, Contagious is that which riseth to an high accompt in multiplication, and usually infects many others with the same kind of disease.

So far of the Manner of disease, the Event thereof follows.

4. *In respect of the Event; some disease is healthy, some deadly, some dangerous.*

Healthy disease is that which threatens the life with no danger.

Deadly disease is that which brings along with it assured destruction.

Lastly, Dangerous is that which hovers in a doubtful event, sometimes tending to health, sometimes to death.

And these are the differences proceeding from those proprieties which are concomitants to essence; those now which are derived from the causes, remain to be proposed.

But those causes are either material or efficients, or helps, without the advantage of which nothing could be produced.

To the Material we refer the subject, to the Efficient the humors, to those without the help of which nothing could be, the place.

There are many other kinds of Causes which here we propose not, because we have determined to spin the accidental differences of Diseases out of these alone; as also neither to lay down all that may be pick'd out from them, but only the most useful.

1. *In respect of the subject, some disease is called Idiopathetick, some Sympathetick.*

The Idiopathetick is that which is primarily produced in the part by its cause, and hath in it a place of duration.

So a Pleurisie, Inflammation of the lungs, and *Phthisis*, and others, are termed Idiopathetick.

*Sympathetick is when the affect of one part idiopathetically dis*eased, *is communicated to another.*

Yet the affection is so communicated to this compassionate part, that upon the ablation of the former, *viz.* the Idiopathetick, the Sympathetick is also taken away; otherwise, if it should remain by it self, it would become Idiopathetick, and then Physicians term it *Deuteropathetick*, or secondary: But the primary is called *Protopathetick*, because the affection owes its first production to that part.

But a Sympathetick disease is usually generated by five causes. First, *because of vicinity.* Secondly, *because of the society of the genus.* Thirdly, *because of the community of office.* Fourthly, *by reason of situation.* Fifthly, *by reason of connexion.*

Because of vicinity the hand sympathizeth with the arm, the bone with the neighbouring flesh, the ventricle with the liver, the ribs with the lungs, the lungs with the heart, and so on the contrary.

By reason of the society of the *genus*, the nervous parts sympathize with the nervous, and the carnous with the carnous, as being constituted under the same *genus*, and partaking of the same nature.

By community of office, the breasts with the wombe, the bladder sympathizes with the reins, because they are designed to the same employment in the body.

By reason of situation, the head is easily compassionative with the inferiour parts; as, the ventricle, liver, wombe, and the like; as being in a direct eminency to them, and so the vapors by them elevated, are with ease conveyed to its reception. So also the ventricle and lungs, easily sympathize with the head, as lying directly under it, and so easily entertaining the defluxions of humors streaming from it.

By reason of connexion, the nerves are compatible with the brain, the arteries with the heart, the veins with the liver, and on the contrary, as bordering upon them.

Again, all sympathetical disease is caused two wayes, viz. *positively or privatively.*

Positively, when any thing is conducted from one part to another.

So the vapors steaming from the ventricle to the brain, produce aches, vertigoes, and such like sympathetical affections, which are termed positive.

Privatively, when there is no influence where there ought to be one.

So in the apoplexy, the sense and motion of the whole body decayes, by the non-influence of the animal faculty and spirits from the brain, caused by the obstructions of the ventricles thereof. And so it is said to proceed from the privation of matter or faculty.

2. *In respect of the efficient causes, or the humors operating diseases, some are called legitimate, some spurious.*

The legitimate is, which is graved with that impress of Nature, which is proper to its species, *and the cause of whose usual production is whole and sincere.*

The spurious is that which neither retains its pure nature, nor hath a sincere cause to which it may acknowledge its production.

A tertian feaver, excited by sincere choler, is called true and legitimate; as also a quartan the effect of pure melancholy: But those feavers are called bastard, spurious, and illegitimate, when they have a confusion of other humors besides those now mentioned.

3. In respect of the place or region in which diseases are generated, some are called endemical, some epidemical, some sporadical.

Endemical diseases are those which are peculiar to some Region, and are in it commonly powerful.

They are otherwise called vernacular and gentilitious, because they are alwayes appendent to one Region, by reason of the air, aliments, *&c.* proper to that Countrey. So the Inhabitants of the *Alpes* are troubled with a *Bronchocele*, the *Spaniards* are perplexed with strumous swellings, the *Lusitanians* pine away with tabifical consumptions, and all these are judged Endemical diseases.

Epidemical diseases are those which in any Region rage among the popularity.

In this Endemical and Epidemical diseases are neerly related, that they seise upon many, and spend their fury upon the popularity: But in this they differ, that Endemical confine themselves alwayes to the same Countrey, but Epidemical are indifferent, and inclinable to forain invasions. The reason of which is this, because Endemical proceed from the peculiar dispositon of the air, water, or dyet of the Countrey: but Epidemical are caused by the air alone, not infected by means of the place, but rather by the malignant influences of superiour bodies.

The

The Sporadical are they which neither commonly range abroad, nor particularize themselves to any Region.

They are also termed dispersed, and are opposed to Endemical and Epidemical diseases, because they are various, and driven by contingences, do sometimes light here, sometimes there: So in this or any other Region, one is sick of a pleurisie, another languishing by a continual or tertian feaver, another troubled with a catarrhe, nephretical pains, gout, dropsie, or any disease of another nature, according to the various nature and constitution of individuals.

Thus much of the nature and differences of diseases, as well Essential as Accidental; now it rests that we handle their Changes.

The second Section of PATHOLOGY.

Of the Changes of Diseases, and chiefly of the Crises.

The First CHAPTER.

Of the Changes contingent in Diseases.

IN Diseases there are two mutations *worth our notice*, either when they metamorphose into some other disease, or when they are absolutely and simply dissolved, without a transmigration into any other.

The change of one disease into another is frequently seen, when the Apoplexy makes a transition into a Palsie, a Tertian feaver into a Quartan; a quartan, the swelling of the liver or spleen, and many other affections turn their stream, and run into the channel of a Dropsie.

Diseases are absolutely and simply dissolved, when without the interception of any other disease they are determined either by health or death.

But their end in health or death is double:

To wit, leisurely and by degrees, or suddenly and unawares.

When a disease is slowly and by little and little ended in death, it is called a Marasmus; but when it is so ended in health, it is called simply Solution, by the *Greeks* termed *Lysis*.

When it is hastily and suddenly ended, either by health or death, it is called *Crisis*, which is commonly opposed to *Lysis* or solution, it being a frequent expression with Authors, that all diseases are terminated by *Crisis* or *Lysis*.

Chap. II.

Of the nature of Crisis.

A Crisis is a sudden and unexpected change happening in a disease, to health or to death.

Hippocrates and *Galen* use this term *Crisis* many wayes; *sometimes* they intend by *Crisis* nothing else but a secretion of humors, as *Galen*, *Comment. on Aph.* 13. *Sect.* 2. saith, That a *Crisis* is caused by Nature separating the noxious humours from the good, and preparing them for excretion. But *sometimes* by *Crisis* they signifie excretion it self, because the best *Crisis* is compleated by excretion. So *Hippocrates in his Book of Art* terms the excretion of a corrupt bone a *Crisis*; or *lastly*, it is taken for a conflict, which upon the imminency of a *Crisis* is usually waged between the disease and nature: But the more frequent and usual acception of it is for judgement, which construction hath been from *Galen*'s age to this, imbraced by many; for *Galen in his Comment. on* 1 *Progn.* witnesseth that judication passed on diseases was derived from the Courts of Judicature, and applyed to the Art of Medicine, nor truly very improperly: for though the things from whence these translations are taken, be not altogether like, yet the judgement passed in diseases hath some similitude with forensical judgement: For in Courts of Judicature, in capital causes, there is the person that brings the action, and the person guilty: The person that brings the action maintains a conflict with the person guilty, and constantly accuseth him, produceth witnesses, and menaceth death or punishment; But if this accusation be falsly charged upon the person seemingly guilty, he pleads boldly for himself, and retorts the punishment on him that brings the action; but if he cannot stand in contradictory opposition to the accusation, he is forced to give up and yield. All these things are transacted before a Judge, who weighs them all, and at last on a certain time gives judgement of the whole matter. In the same manner in the *Crisis* the disease represents him that brings the action, nature the person guilty, the morbifick cause brings nature into the Court, endevouring to overthrow it; of this invasion the symptomes are witnesses, which declare the whole progress of the contention. But nature, which is as it were in the capacity of a guilty person, defends it self stoutly against its adversary disease, whose resistance, if she be well fortified, she baffles, and turns him off as an unjust Plaintiff, and thrusts him out of Court; but if she want good supports, she must submit to the fury of her Antagonist. All these things are points of accurate inspection to a Physician; who after a serious pensitation of the strength of both parts, gives sentence as a Judge, and designes that day of judgement in which either the disease or nature shall be cast. From hence it is evident, that the comparison of a *Crisis* with Judicature, is not wholly absurd and contemptible.

But to draw neerer to the very definition of a *Crisis*, it being defined by mutation: It is requisite to be known that in all motion, according to the Philosophers, there are many things considerable, the point from which, the point to which, the *medium* through which motion is made, motion, the mover, and the moveable: All these things are perpetually found in a *Crisis*. For the *Mover* is Nature it self, performing coctions, separating humors, and at last expelling them on the Critical day. The *Moveable* is the Morbifick cause, and preternatural humors, to which onely

only a *Crisis* is incident. *The point from which* a *Crisis* is derived, is the augmentation of the disease, for a *Crisis* is in a disease; and according to the various nature of a disease, the *Crisis* is more slowly or swiftly exercised: for acute diseases are sooner judged of, long more slowly.

The point in which the *Crisis* ends, is Health, or Death, or a state neighbouring upon them, or a transition into some other *species* of disease. But the *Medium thorough which*, is all that interval of time extending from the augmentation to the solution of the disease, in which nature elaborates Concoction, Secretion, and Excretion.

But this motion of the *Crisis* is not simple, but doubly compound, of Local and Alterative; and natural and violent. *Local motion* is caused in *Crisis* by reason of the morbifical cause, moved and agitated by nature, and discussed by the usual wayes. But *Alterative motion* is caused by reason of the patient body, whether it be *corruptive*, as appears in a deadly *Crisis*, or *perfective*, as is evident in an healthy *Crisis*. Secondly, this motion is *natural* in respect of nature, the internal principle, and mover, effecting the *Crisis* primarily, and by it self: but violent in respect of the skirmish, perturbation, and sudden mutation. A *Crisis* therefore is oppositely termed mutation, and that swift, and sudden, that it may thus be distinguished from coction, the contention and secretion: as also from the slow and procrastinated solution of long affects; hence this celerity affords a proper, and peculiar difference. But the residue of the definition is so obvious by it self, that it needs no explication.

Chap. III.

Of the Differences of Crises.

Some Crisis is Perfect, some Imperfect.

The Perfect is that, which perfectly and wholly sets the sick person at liberty from the disease: and it tends to Health or Death.

There are six conditions requisite to make up a perfect, & healthy Crisis. For it must First, *hold forth very good symptomes.* Secondly, *manifest ones.* Thirdly, *it must happen on a critical day.* Fourthly, *it must be true.* Fifthly, *secure.* Sixthly, *convenient for the disease, and nature of the sick person.*

First then a perfect and healthy *Crisis*, must present us with the token of concoction upon the day of indication; for every critical day hath its index, *viz.* the fourth is the index of the seventh, the eleventh of the fourteenth, the seventeenth of the twentieth. In these dayes, I say, the signs of concoction must appear, that a perfect healthy *Crisis* may follow. *Secondly*, it must be manifest, that is in conjunction with some notable evacuation, *viz.* with excretion, or abscession. *For those which are alleviated without manifest excretion, do usually relapse* (as *Hippocrates* in his *Prognostickes*) this is confirmed by the authority of the same *Hippocrates* in many stories in his *Epidemicks*, among which this most notorious one shall serve in stead of all the rest. *Sect.7. Book.3. Epid. Egr. 2. Hermocrates* was rid of a feaver the fourteenth day, without sweat, on the seventeenth day the feaver

feaver returns to him again, on the twentieth it leaves him, without ſweat, this unwelcome gueſt preſuming upon its former entertainment viſits him again, on the twenty fourth, at laſt on the twenty ſeventh he dies. For if the ſolution of a diſeaſe happen without critical cauſes, it wants not its danger; and if it end with a notable excretion or abſceſſion, it is judged to be a *Criſis* preſaging health. *Thirdly*, it muſt happen on a critical day; for on thoſe dayes nature, being admitted to commodious operation, doth uſually cauſe a preſent and copious expulſion of noxious humors, and contrive uſeful excretions; which if they fall on another day, ſpeak nature to be moleſted, and to operate tumultuouſly. *Fourthly*, it muſt be true, and not leave behind any reliques of the diſeaſe, which may endanger a recidivation. *Fifthly*, it muſt be ſecure, that is eaſily tolerable by the ſick perſon, and without any dangerous ſymptomes. *Laſtly*, ſuch a *Criſis* muſt agree with the *ſpecies* of the diſeaſe, and the nature of the ſick perſon, and ſuitable to his age, and temper. Acute diſeaſes are uſualliy judged by excretion, long by abſceſſion. A burning Feaver is in a young man judged by the flux of blood, in an old man by the flux of the belly.

A perfect deadly *Criſis*, hath contrary conditions to the healthy.

Theſe are eaſily made out by the forementioned conditions, if we turn thoſe to the contrary which are propoſed to make up an healthy *Criſis*. But of theſe amongſt the reſt the firſt is moſt conſiderable, that *Criſis* being moſt deadly which is not uſher'd in by the precedent ſigns of concoction. For if upon no appearance of concoction, there ariſe any perturbation, and evacuation of humors, it is an undoubted ſignal, that nature by the abuſive malignity of humors is provoked to a diſtemper. Whence it is, that ſhe runs too faſt for the gradual progreſs of coction to arrive in her company to a ſtation, and then we may confidently aſſert the *Criſis* is not ſafe: and the leſs, according to the dangerous nature of the diſeaſe. For in an healthy diſeaſe, and a leſs dangerous one it is formidable leſt it ſhould be undervalued in the judgment, and afterwards the diſeaſe ſhould return with more troubleſome and dangerous ſymptomes, or continuing longer ſhould be determined by death. *For Coctions* (ſaith *Hippocrates*) *ſhew the quickneſs of judgment, and the ſecurity of the diſeaſe; but crude and inconcoct excretions purged by bad abſceſſions are ſigns of pains, diuturnity, or acriſies, or death, or relapſe.* For theſe inconveniences ariſe, when the *Criſis* can by no means be forejudged, whence it appears that the conditions and cuſtomes of nature are wholly aboliſhed, and vanquiſhed by the ſtrength of the diſeaſe, nor that it can be expected; that victory ſhould return in the *Criſis*, becauſe in the fight nature diſplayed no enſignes of victory, which alwayes happens in a mutual repugnancy; for he who is likely to conquer his Antagoniſt, ſhews in every point of motion that he hath ſubjected his enemy, though he bring back the marks of repaſſion. But when no ſigne of prevalence appears, it neceſſarily implies the deſtruction and downfal of a faculty.

An imperfect Criſis *is that in which the diſeaſe is not perfectly judged, but onely partially, and leaves room for another* Criſis *to ſucceed.*

And this is twofold, one to melioration, the other to detriment.

That tends to melioration which frees not the ſick perſon wholly of the diſeaſe, but cauſeth an alacrity in bearing it.

That is detrimental which adds fuel to the diſeaſe, and makes it more violent and dangerous.

A COROLLARY.

The proposed differences of the *Crisis* are knotted with some difficulties which are here to be resolved. For *first*, it may be proved by the following arguments, that there is no perfect healthy or deadly *crisis*.

First, If there were a perfect healthy *crisis*, when that were consummate, perfect health would be the sequel of it. But after a *crisis* health is in a very languid and imperfect condition, and all the actions persisting weak and infirm, are symptomes rather of a morbous constitution, than of health.

Secondly, There can be no transition from one extreme to another, without the help of a *medium*. But a neutrality of state is the *medium* between disease and health. Therefore in every *crisis* there will be a change to that neutral state, but not to perfect sanity.

Thirdly, They who are in a way of recovery, having escaped the danger of a disease by a *crisis*, are in the same manner preserved as sick persons. But this were inconsistent, if a *crisis* were perfect and healthy.

Fourthly, a deadly *crisis* also cannot be termed perfect, when death the consequent of it, is a pure destruction, and contrary to perfection.

Fifthly, Every *crisis* is perfected by Nature, and all her actions perpetually aim in a direct tendency at good. Therefore no *crisis* can be deadly.

To the first, second, and third, I answer, That *crisis* is called perfectly healthy, after which no particle of morbifick matter is left in the body which may give a resummons to a disease; but though sanity in its perfection be not immediately succedaneous to the *crisis*, but only a neutral state of recovery, yet this depends not upon preternatural matter, but onely upon the languidness and imbecility of the parts necessarily introduced by the violence of the now departed disease. Therefore we may affirm, that at that time sanity is perfect, at least in respect of the morbifical cause, which was wholly evacuated. And this is a sufficient ground for a perfect healthy *crisis*.

To the fourth we answer, That in a deadly *crisis* there is a destruction as to the *individuum*, and the body diseased, but this is no impediment to perfection in respect of the *crisis* it self, which though it be destructively exercised, yet when it is wholly finished it may be called as it were perfect.

To the fifth I answer, That Nature proposeth alwayes to it self the best end, yet often errs in her collimation, when she is very infirm, and for want of strength cannot take the mark, but is forced to a burdensome submission.

Secondly, Two stories related by *Hippocrates* may be objected against the first condition of a perfect healthy *crisis*, the first of which we find, 1 *Epid. Sect.* 3. where he reports that one *Meto* without any symptomes of concoction was judged perfectly to health. The other may be read, 3 *Epid. Sect.* 3. where he also affirms, that one *Larissæa* a Maid was perfectly judged without the signes of concoction. But this objection may be enervated two wayes:

For *first*, we say with *Galen* that those Histories are rare, and as to nature extraordinary, therefore especially noted by *Hippocrates*. *Galen* also admires *in his comm.* that no recidivation followed upon those *crises*, because they appeared not according to the custome of nature, nor the ordinary rule of an healthy *crisis*. We say *secondly*, That those *crises* were healthy, because in the beginning there proceeded many evacuations, and those laudable enough, and many followed the *crisis*; as by those Histories appears. Yet although they were as it were symptoma-

tical, becauſe they came forth in the beginning without the ſignes of coction, yet they are in ſome manner deemed to be critical, as being cauſed by the force of oppreſſed nature, and ſwelling matter; or at leaſt we may call them mix'd, *viz.* partly critical, partly ſymptomatical, which by diminiſhing the morbifick matter, can effect, that the ſucceeding *Criſis* be terminated in ſalubrity, eſpecially when other evacuations followed it. For after judgement *Meto* frequently bled at the noſe, and the moneths of *Lariſſæa* iſſued, which never appeared, and therefore no recidivation followed upon it.

It may alſo be *objected*, That nature can critically evacuate the noxious humors while they are tumid, without the ſymptomes of coction, when it may be lawful for a Phyſician by the precept of our divine Sire, to cauſe purgations, when the matter ſwels without any expectation of concoction. To this *it muſt be anſwered*, in the beginnings of diſeaſes nature being oppreſſed by the ſwelling matter, can cauſe onely mix'd evacuations, *viz.* partly critical, and partly ſymptomatical, not perfect *Criſes* through defect of concoction.

Thirdly, Againſt the fifth condition of an healthy *Criſis*, *viz.* that it muſt be ſecure, that is, eaſily tolerable by the ſick perſon, and without dangerous ſymptoms, authority, reaſon, and experience may be *oppoſed*. For *Hippocrates*, *Aph.* 13. *Sect.* 2. affirms, that a night troubleſome and dangerous is the forerunner of an approaching *Criſis*, and *Galen chap.* 7. *Book* 2. *of Criſes*, aſſerts, that divers ſymptomes, and theſe moſt perillous, as perturbation, deliration, difficult reſpiration, toſſings, inequality of pulſe, and critical vacuations are its anteambuloes.

Laſtly, A *criſis* cannot happen, but after a conflict of nature with the diſeaſe; and this contention cannot be without the exacerbation of ſymptomes: for nature and the diſeaſes doe mutually act and ſuffer, by which means the body of the ſick perſon is neceſſarily tortured: *Laſtly*, experience teacheth, that no *criſis* (how healthy ſoever) can be exerciſed without vehemency of ſymptomes; and great diſturbance of the ſick perſon. To theſe *we anſwer*, that in a *criſis* many ſymptomes exert themſelves, but they are not dangerous, for where the ſtrength is firm, and vigorous, the ſymptomes, which are alwayes more gentle in an healthy *criſis*, cannot inferre any danger. For when they are very vehement, they portend a deadly *criſis*, or at leaſt an imperfect one, and poſting on to worſe.

Fourthly, Againſt the laſt condition of an healthy *criſis*, *viz.* that it muſt agree with the diſeaſe, and the nature of the party diſeaſed, ſo that acute diſeaſes may be judged by excretions, long ones by abſceſſions. As *Galen*, *chap.* 7. *book* 3. *of criſes*. Beſides peſtilent feavers, which are acute to extremity, are eaſed by botches and carbuncles. Long diſeaſes alſo are not onely judged by abſceſſions, but alſo by excretions. Nor do theſe *Criſes* conform to the nature of the ſick perſon, for acute feavers in young men are terminated not only by flux of blood, but alſo by ſweat, urine, and flux of the belly, which happen indiſcriminate in old men. To all theſe it muſt be *anſwered*, That the condition propoſed is true, but not alwayes and neceſſarily, but for the moſt part; for nature hath its ordinary motions, which ſometimes changes according to the various conditions and diſpoſition of the matter, ſo that the matter which at ſuch age was uſually evacuated by nature, by flux of blood, if it be not placed in the inferiour parts, is more conveniently ſent away by urine, or the flux of the belly.

CHAP.

Chap. IV.

Of the Signes of Crises.

There are three Orders of Critical Signes; some termed antecedent, some concomitant, others subsequent.

The Antecedent are again of two sorts, some prognosticating the time of *Crises*, some the *species* of them. The time of an approaching *Crisis* is known two wayes; by the acuteness of the disease, and by the signes of concoction, which are by us explicated, *Sect.* 5. *Semiot. cha.* 4. Those signes foreshow the *species* of a *Crisis*, which give notice by what place a *Crisis* is to come, *viz.* either by vomit, flux of the belly, sweats, urines, flux of the blood, moneths, hemorrhoids, or abscession: which were all explained by us, *Sect.* 3. *Semiot. chap.* 5, 6, 7, 8, 9, 10, 11.

Signes concomitating the *Crisis* are those which appear in company with the very *species* of the *Crisis*, demonstrating whether the *Crisis* it self now being be good or bad, perfect or imperfect. And they are the very causes and critical *species*, which are onely two, excretion and abscession.

That excretion ought to be called healthy and good which is made conveniently; but that it may be so, foure things are requisite, a laudable quality, a moderate quantity, an opportune time, and the manner of excretion familiar to nature.

The quality of the excreted humor is laudable, if both the peccant and cocted humor be evacuated. The quantity is moderate, which is neither defective but sufficient, nor immoderate, for the exiguity of it is condemned and suspected, such as dropping of blood, inconsiderable transpirations by sweat, smal vomits; the immoderate wants not its danger. The opportunity of time is the Critical day, excretions happening on other days give cause of suspicion. The manner of excretion is familiar to nature, if they be at first copious, and flow not out slowly and by little; next, if they be thrust out through places conducible and agreeable to the laws of nature.

But that evacuation may be made by convenient places, three things are necessary: *First*, That the place be not more worthy than that in which the disease resides: *Next*, That it be direct: *Lastly*, That it have open passages.

That the abscession may be legitimate, three things are to be noted, *whither*, *from whence*, and *for what cause*. *Whither* signifies the part in which it dwels, which must be an inferior one, ignoble, and remote from the affected part, and capable of the whole morbifick matter, otherwise there will be danger of a reflux. *From whence*, denotes the part from which, the right or left; for the decumbency must be direct. *For what cause*, shews us the cause, by reason of which this abscession is made; that is, whether from Nature, the disease being concocted, or from the matter collecting it, and the crude hnmor yet troubling it; for if there happen an abscession while the disease is crude, it will be small, and not perfectly demonstrate the disease. All these are particularly by us explained, *Sect.* 3. *Semiot. chap.* 2. when we make an inspection into the signs, drawn from the excrements flowing by divers parts of the body.

The consequent signs of a *Crisis* shew whether it be perfect, and whether our expectation will not be deluded, if we look for perfect health thereupon, or whether it be imperfect, to a danger of recidivation. And these are taken from the actions, excrements, and qualities of the body, in which if there be but a small recess from a a natural state, the excretion was healthy; but if there be a wide recoil, the *crisis* is imperfect, and there will be danger of recidivation. These also wil require explication *in the last ch. of the Prognostick part*, in which are propounded the signes of imminent relapse in those who are in way of recovery.

Chap. V.

Of the Critical dayes.

Those are called Critical dayes, in which Crise's *usually happen.*
Their differences are three; some are truely and perfectly Critical, some indicative, some casually intervening.
The perfectly Critical are called principal or radical, because the Crise's *contingent on these dayes bear all the marks of a perfect* Crisis: *those are the three* Septenaries: viz. *the seventh, the fourteenth, and the twentieth.*

THese dayes more frequently produce frequent and healthy *Crise's*, because Nature in them chiefly when she operates to purpose, and gets the day absolutely against the power of the disease, she (like a stout virago) challenges the morbifick cause to a single duel, which she routs out of the field by convenient passages. But these are the three Septenaries, because Nature delights in a Septenary number. For in the seventh moneth it quickens the Embryo to life, in the seventh yeer of our age we shew our teeth, at the fourteenth the moneths flow, and every Septenary causeth notable mutations in Men: The first of these is the seventh, not onely by a prerogative of order, but also by a superiority of power and strength, as *Galen* witnesseth, 1 *Of Decret. dayes, chap.* 4. Comparing it with a King, admirable for clemency, who pardons many, and secures them from punishment, who mitigates the punishment of persons condemned; for most usually the *Crise's* happening on these dayes are good and healthy. But if some be casually bad, they are not so pernicious as another day would make them.

The second is the fourteenth, in which those diseases are judged, on which by reason of the matter not yet well concocted, judgement could not be passed on the seventh; but if an hasty *Crisis* happen before the fourteenth it is not perfect, but is caused by the irritation of Nature, or the plenty or quality of the matter. For Critical dayes being numbred by weeks, the fourteenth is the end of the second week, which caused *Hippocrates* to term it uneven, as not being considered from the first day of the disease, but from the first day of the second week. By it also acute diseases are terminated, according to *Hippocrates*, *Aph.* 23. *Sect.* 2, *Acute diseases are judged in fourteen dayes*: Which he also confirms *in Coac. Fourteen dayes judge of burning feavers, sentencing either to death or to health.* Yet many Histories delivered in his *Epidemicks* seem to enervate the truth of this assertion; which stories are of those, who having acute feavers were produced beyond the fourteenth day. *Herophon* judged on the seventeenth, *Philinius* his Wife dyed on the twentieth; *Charion* judged on the twentieth; but all these were troubled with acute feavers. To which *objection it must be answered*, that Diseases truely acute according to the vote of *Galen* and *Hippocrates*, are those which are swiftly, continently, and vehemently rooted, nor do they attain to the title of acute, till they begin to be vehement; though then some diseases be judged the seventeenth, and the twentieth day, as to the beginning of the disease, yet they are alwayes judged on the fourteenth as to the vehemency thereof. For such diseases as are judged the seventeenth or twentieth day, do not presume to be violent

violent and impetuous so soon as they drop from their causes, but after a little pause. So those which began to be violent on the end of the fourth day, though they were consummate on the seventeenth, yet doubtless they were judged on the fourteenth after their violence; and those which appeared violent on the seventh, judged on the twentieth, have a solution on the fourteenth of their violence. Whence *Galen* in his *Commentary on the mentioned Aphorisme*, saith, *That no one was ever found, which was so swiftly moved from the beginning, that it passed this boundary, which did not receive some mutation by the dayes aforesaid.* For though an acute disease end sometimes on the seventeenth, or twentieth day, yet we have found it judged within its fourteenth, if we compute from that day in which the disease begins to be more swift and vehement: Which appears by *Hippocrates* his history of a young man in *Melibœa*, who fell to deliration the tenth day, was quite mad the twentieth, and died the twenty fourth: by which it is evident that he deceased on the fourteenth day of vehemency, which began but on the tenth day of the disease. But though *Hippocrates* calleth some diseases acute, which are extended to the fortyeth or sixtyeth day, yet they are not truely and properly acute, because they are not vehement and impetuous, but slow in progress; and are therefore from their decidence commonly called acute, whereas they are produced from acute diseases judged by an imperfect *Crisis*, or proceed unequally, by reason of the unequal change of remission and exacerbation.

The third of the principal dayes is the twentieth, which is the seventh from the fourteenth, the fourteenth being here numbred, for it is the last of the second week, and the first of the third, as Hippocrates *informs us*, Aph. 24. Sect. 2. *where chiefly observing the indicative dayes*, he saith, The seventeenth day is worth Contemplation, because it is the fourth from the fourteenth: *Whence we must necessarily inferre, that the twentieth is the seventh from the fourteenth.*

The same thing *Hippocrates* confirms in many stories in his *Epidemicks*, as in that of *Charion*, in the wife of *Philinus*, and in the daughter of *Euryanax*, who were judged the twentieth day. But in others judged after the twentieth, there happened *Crise's* in the fourths and sevenths by computation from the twentieth. So *Abderitana* a Maid was judged the twenty fourth, *Anaxion* the thirty fourth.

But yet we may *oppose* to this tenet, that the same *Hippocrates*, *Aphorism. 36. Sect.* 4. omitting the twentieth, reckons the twenty first amongst the Decretory dayes; for, saith he, *sweats are good for decumbents in feavers, which are evaporated on the third, the fifth, seventh, ninth, eleventh, fourteenth, seventeenth, and one and twentieth dayes.* The same he confirms *in* 1 *Epid. in the book of Decretory dayes*, in which he sets down the twenty first, omitting the twentyeth.

To unravel this difficulty we *must answer*, That the *Crise's* contingent in the third week, most frequently take up part in the twentieth and twenty first, so that something *Hippocrates* might well referre the *Crisis* to the twenty first. Yet it were more rational to call that the Critical day, in which the *Crisis* begins, then that in which it ends.

The indicative dayes, which are called contemplable and Messengers, are those which denuntiate the drawing near of the Crisis *on the septenaries: and they are in number three, the fourth, the eleventh, and the fourteenth.*

They are called Contemplable because by the Contemplation of them we foresee the approach of a *Crisis*, and for this cause they are therefore called messengers, and more frequently indicative, because they shew and foretell the day designed for the coming of the *Crisis*; and that by the signs of concoction, appearing chiefly in the Urine: whence *Hippocrates* in his *Prognosticks and Aphorisms* averres,

That Urine issuing the fourth day which hath white hypostasis smooth and equal do Prognostick a solution of the disease on the seventh day. But of the principal dayes every one hath its index: *viz.* the fourth is the index of the seventh, the eleventh of the fourteenth, the seventeenth of the twentieth. But those days are also reckoned among the Critical, as not being simply indicative, but because in them *Crise's* do not seldome happen, though less perfect ones.

Of these therefore the fourth day is the first, which primarily, by it self and of its own nature is the index of the seventh, as *Galen* hath diligently observed, *chap.* 11. *book* 2. *of the decretory dayes*, where he instructeth us that that Crisis, appears the fourth day by its antecedent signs of concoction, which without the objection of an impediment will happen the seaventh day. For many things may stop the motion of nature not in the seventh alone, but in every Critical day, *viz.* either as to the sick person himself, or the Physician, the attendants, who are incident to many errors: So that if on the seventh day the Physician prescribe a purgative, if the sick person, or the attendants be disobedient, and pervert the right use both of remedies, and not natural things. But the fourth day is to be placed among the decretories, for it discovers diseases peracute to extremity, as *Hippocrates* witnesseth in his *prognostickes*, for, saith he, *The most gentle Feavers, and those that are confirmed by the secureſt signs, end the fourth day or sooner; but the most malignant, and those which are attended by dreadful symptomes, kill the fourth day or sooner.* So in his *Epidemicks*, Pericles on the fourth day with the breaking forth of an universal sweat, died by a most acute Feaver. *Calvus Lariseus*, had a pain in his right thigh, on the fourth day he dyed very suddenly and acutely. Yet these *Crise's* are very rare, which happen on the fourth day, for they more frequently fall out on the third or fifth, because the exacerbations of acute diseases are caused on odde dayes. But on the same dayes the diseases, from whence these exacerbations proceed, are discovered, as *Hippocrates* taught in *Epid.* and hence *Galen* averres, that he observed but onely once a *Crisis* on the fourth day, but *Archigenes* twice.

The second of the Indicatives is the Eleventh, which yet doth not so perfectly demonstrate the fourteenth, as the fourth doth the seventh. For as the strength of the dayes perfectly judging is by degrees diminished; so is the vertue of the indicatives also, whereas the speedier the *Crises* arrive to perfection, they shew the greater predominancy of nature over the morbifick cause, and by how much the longer they are protracted, they shew a greater insufficiency, or at least obstinacy of the matter, and therefore judgment cannot be so infallibly; and orderly passed on them; but the eleventh day doth not only act an index, but a judge; but not so perfectly, and frequently, as the truely Critical: and many examples are presented to us by *Hippocrates* in his *Epidemicks*, of those, which have been judged the eleventh day, and *Galen chap.* 7. *book* 1. *of decretory dayes*, relates that one autumn, he observed that all were judged the eleventh day.

The third of the Indicatives is the seventeenth, which doth not so surely foreshew, as the fourth, and eleventh, but judges much more powerfully, and is by *Galen* and other Authors reckoned among the more strong Criticals. Yet *Archigenes* and others, which number the dayes whole, and so the one and twentieth, not the twentieth, make it a true Critical day, and admit the eighteenth for an index, not the seventeenth, whom *Galen* encounters with a large refutation, 2. *of decretory days, chap.* 4.

The intervening dayes, which are also called leap-dayes, irrepent, or provocatory days, which are annumerated to the principals, and fal between the indicatives, endeavouring imperfect Crises, *are the third, fifth, ninth, thirteenth, and nineteenth dayes.*

The

They are called *Provocatory*, because they sometimes tempt nature to excretion, whence a *Crisis* happens some times in them, but an imperfect one, because it proceeds from the unseasonable and inconvenient irritation of nature. Every week hath its intercident dayes. For the first hath two, the third and the fifth; the second hath also two, the ninth and the thirteenth; But the third hath but one, *viz.* the nineteenth. But these dayes are in some manner Critical, because odde. And acute diseases are heightened to an exacerbation in odde dayes, and in those exacerbations *Crises* usually happen, because then nature is provoked to excretion. Yet these *Crises* which are caused by irritation are imperfect, as is before shewn.

But the other dayes which are neither principal, nor indicative, nor intercident, are called vacant and Medicinal dayes, and they are, the sixth, the eighth, the tenth, the twelfth, the sixteenth, and the eighteenth.

They are termed *Vacant*, because they neither judge, nor discover, nor provoke, nor any are in manner Critical: and if a *crisis* happens in them, it is bad. But they are called *Medicinal*, because in them all kinds of Physick, and so purgatives may be with safety administred, which *Hippocrates* teacheth in a clause worthy our observation, in his *fourth of diseases*. *Whosoever*, saith he, *being aggrieved by a continual Feaver, use a cathartick on the even dayes, are never purged enough. But they who use a purgative on the odde dayes, are overmuch purged, and many have thereupon dyed.* They may also be in some sort called decretory, not simply, but with adjection, that they are bad decretories, for they are never nuntio's of health, but discover badly, treacherously and dangerously: because the Crisis happening in those dayes, proceed simply from the malignity of the disease, not from the conquest, or at least the irritation of nature, as happens in provocatories. The most malignant of these is the sixth, which *Galen* names a Tyrant, purely contrary to the seventh, by him named King. Therefore what *crises* soever fall on the sixth day are to be deemed most dangerous. *An emanation of sweat on the sixth day, is very bad*, as *Hippocrates in Coac.* and in his *Aphorismes*, the Jaundies is the sixth day deadly. But in the *Epidemicks* there are found many histories to this purpose, as of the Wife of *Dromeada, Hermocrates, Philiscus*, and many others, who were unhappy in the contingencies of *crises* on the sixth day. But it may be *objected*, out of *Sect. 3. book 3. of Epidem.* That *Larissæa* a Maid was judged to health on the sixth day. *We Answer* with *Galen*, that this casually is very rare, and beyond the custome of nature, for this *crisis* happened neither on a Critical day, nor were there any precedent symptomes of concoction, as before was mentioned. But the cause of this healthy *crisis* is to be ascribed to the rare, and extraordinary strugling of nature, which endeavoured a triple evacuation in this Maid, *viz.* by the monthly purgations, by large flux of blood, and a torrent of sweat. The same judgement will hold of the rest even dayes to the twentieth. Although some Neotericks haue fansyed, that sanguin diseases are judged on the even dayes, because they are moved on the same; yet this is seldome seene, both for that in acute feavers, which are caused by blood, the blood doth easily degenerate into choler, or at least the putredinous part of it, or for that *crises* do not simply follow exacerbations, but much rather a superior cause, which shall be more largely declared, in the *chap. of causes.*

The Critical dayes are also numbred from the twentieth to the fortieth by septenaries, the twenty seventh, the thirty fourth, and the fortieth. From the fortieth to the hundred and twentieth by vicenaries, the sixtieth, eightieth, hundreth, hundred and twentieth, but after this the strength of the Critical dayes is spent, and then Crises *are said to happen by moneths and years.*

The chief, and more ordinary Critical dayes are those, which usually happen in

acute

acute diseases; But these acute diseases if they begin with violence are judged the fourteenth day, or sooner, but if they begin not to move swiftly, and vehemently, before the end of the first week, they are extended to the twentieth, which by this means terminates acute diseases. But those diseases which reach beyond the twentieth, are called acute by decidence, and in these *Crises* happen, but not frequently, and so they are numbred not as before by quaternaries, but by septenaries to the fortieth, in which their strength is decayed, and the dayes are numbred by vicenaries only to the hundred and twentieth, in which also *Hippocrates* relates contingencies of both healthy, and deadly *Crises*, 3. *Epid. Sect.* 3. Where we read *Heropytus* was perfectly, and healthfully judged on the hundred and twentieth day. *Pacius* in *Thasis*, died on the hundred and twentieth. Beyond that time the vertue of Critical dayes reacheth not, but afterwards the *Crises*, or rather the changes of the body happen in moneths, or years, as *Hippocrates* witnesseth, *Aph.* 18 *Sect.* 3. *Many diseases*, saith he, *in children are judged, some in forty dayes, some in seven Moneths, some in seven Years, some upon their arrival to puberty.*

The Computation of Critical dayes must be made from that hour, in which the sick person perceives a manifest lesion of his actions.

We cannot compute the Critical dayes, unless we certainly state the beginning of the whole disease, which must be deduced from the very hour in which the person sicken'd, for from that to the like hour of the day following, is reckon'd the first day, and the other consequently. But it is very difficult to state this hour, and many errors are often committed in it; whereas vulgar Physicians compute the beginning of the disease from the hour of taking bed, which may indeed hit right in delicate and effeminate men who upon the lightest touch of pain, presently keep their bed, but in men more strong and accustomed to labour, it is very fallible, whereas they by the assuefaction bear the disease, but now creeping on, nor yet troublesome, for many dayes; nor retain to their bed, till they are supplanted by the oppressive violence of the disease. Therefore the true computation must be instituted from that very hour, in which we perceive a sensible lesion of actions in the party diseased, *viz.* by which, he could not dine or sup, or according to his custome walke, or perform other usual offices: in short from that time in which he began to be feverish, if it be a primary, not a symptomatical feaver. But because a feaver is seldome known by the sick person, or his assistants, therefore the Physician by the relation of symptomes, and their first invasion easily deduceth the feaver it self from the beginning. But there is one true sign often occurring in the beginning of a feaver, *viz.* that acute diseases do often invade us with coldness and shaking. If therefore the sick person relate to the Physician that in the beginning of his sickness he perceived a chilness and trembling such an hour, that hour will be truely the beginning of the disease, from which the Critical dayes are to be computed.

In a Woman in labour, troubled with an acute feaver, if the birth be natural, the computation of the Critical dayes must be from the feaver, not from the birth; but if the birth be preternatural, the computation is to be made from the birth, not from the Feaver.

This Theoreme includes a very difficult question, and much intricate, as being opposed by no less authority then of *Hippocrates* himself, and fortified on both parts with very sinewy difficulties of reason. *Hippocrates* 3. *Progn. Aph.* 12. saith, *In like manner judgment is passed in Women from the birth.* And *Galen in his comment on that place*, confirms the opinion by these words: *Let the beginning of reckoning be made, not from that day in which they were feaverish, but from that in which they brought forth; in some therefore they begin about the second, or third day after parturition, from which*

which many number the future judgement: but erroniously, for the numeration of dayes is to be instituted, from that in which they brought forth. Which precept *Hippocrates* hath also brought into his practice, 3. *Epid. Sect.* 2. *Ægr.* 10, 11, 12. *and Sect.* 3. *of the same book Ægr.* 14. In which place he tells us stories of many women in parturition troubled with an acute disease, in whom the days were computed from the very day of birth. This may be reestablished by a very pregnan treason; For it seems the beginning of the disease is to be contemporary with the first motion of the humor: But the humor begins to be moved in the day of bringing forth, for then begins nature to struggle, and then the humors are agitated, therefore from this agitation of humors the computation must be made. But on the contrary the same *Hippocrates* 1. *Epid. Ægr.* 4. In the Wife of *Philinus*, which on the fourteenth day after delivery, was taken sick of a feaver, reckons the dayes from the day of the feaver, not of the birth. So *Ægr.* 5. *following*. In the Wife of *Epicrates*, which begun to be feaverish the second day after parturition, he institutes his computation from the feaver, not from parturition. As also *Ægr.* 11. *of the same book* in the Wife of *Dromeada*, which on the second day after delivery, was taken with a Cold, and acute Feaver, he makes the same computation from the day of the feaver, not of delivery, This opinion also is compared with strong fortifications of reason. For if the computation ought in any reason to be made from the day of delivery, it would be chiefly this, because of the motion of the matter in parturition: but this motion is not a sufficient cause: for though the matter be never so much moved occasionally before the feaver; yet nevertheless the computation begins from the feaver it self, not from the motion. So in a violent exercitation of the body, causing a feaver, the computation must not be deduced from the exercitation, in which the commotion of humors was made, but only from the subsequent feaver. This controversy is determined in the proposed Theoreme. For Birth is natural or preternatural. And these are differenced by the gravity and levity of symptomes, and principally by expurgation, which in natural birth proceeds in due order; in preternatural is suppressed. If therefore the birth be natural, a woman within the time of expurgation cannot, unless by reason of some procatarctick cause, be taken with a feaver, as being duly purged from all excrements. But if the birth be preternatural, it is evident that it invests it self in the nature of the disease, offending very many operations. And so, the feaver succeeding this morbous birth, is deemed to depend upon the birth it self, and so fals under the notion of a symptomatical feaver; and the computation of the dayes which ought to be made from the original of the disease, must be made from the morbous birth. This *Hipp.* observed in his *Ægr.* above propounded: for the Women there mentioned *Hist.* 10. 11. *&* 12. *Sect.* 2. *book* 3. *Epid.* had a preternatural birth, for the two first, were abortive; but the third was delivered with much pain. As also she mentioned in *hist.* 14. *Sect.* 3. brought forth with great difficulty, and without much purgation. Therefore in these four *Hippocrates* makes his computation from the day of birth, but in the others related *in hist.* 4. 5. *&* 11. *book* 2. the birth was natural; for the Wife of *Philinus* brought forth a Female, with purgation according to nature, passing thorough the rest with ease. The Wife of *Epicrates* was delivered of a Daughter, and all other things did orderly proceed. The Wife of *Dromeada* brought forth a Daughter also, with all other things according to order. Therefore *Hippocrates* institutes his computation in them from the day of the feaver, not of the birth. But against this decision of the controversy we have another in arms, *viz. Amatus Lusitanus*, an Author otherwise very grave in his *Schol. curat.* 34. *Cent.* 1. *Truly*, saith he, *this answer of Hipp. is not satisfactory to the mind and of no moment*; and this

this he endeavours to demonstrate out of *Hist.2.Sect.3.Book 3.Epid.* which is concerning a woman in *Thasus*, which having brought forth a Daughter without purgation, was the third day taken with an acute dreadful feaver; and *Amatus* is of opinion, that in her, computation was made from the day of the feaver, whereas it is not evident that the birth was preternatural, though without purgation. But that this computation was made from the day of the feaver, he collects from the following words of *Hippocrates*, which are contained in the History: *But after she had been shaken with cold, continual feavers*, &c. *That from this* (saith he) *the Reader might understand the computation to be made from the third day after birth.* But by this good mans leave we must tell him that his interpretation of *Hippocrates* is bad, out of whose words nothing can be gathered but this, that from the third day of delivery a continual feaver followed, and the symptomes the concomitants thereof. And if we traverse the whole History, it will evidently appear that computation was made from the day of the birth, not of the feaver, as *Valesius*, and *Mercurialis*, learned Interpreters of the *Epidemicks*, confidently assert. And so the proposed distinction containing the division of the question, will be agreeable to the mind of *Hippocrates*. But there intervenes yet one scruple, *viz.* Why *Hippocrates* 3 *Progn.* absolutely proposing as it were a general rule, teacheth simply to compute from the day of birth? We *must answer*, That *Hippocrates* in his Books of *Epid.* observed various experiments, and many cases, as they happened, from which he afterwards composed rules and canons, contained in his Prognosticks and Aphorisms, as *Galen* informs, *Book 1. of Decretory dayes, chap. 3.* And the Canons are drawn from the most frequent contingencies: but it is usual, that a feaver immediately succeeding upon parturition, depends upon the error of the birth, therefore for the most part computation is to be made from the birth. But it is seldome found, that when the birth is natural, a feaver should arise, which at that time cannot proceed from any thing but a procatarctick and extern al cause.

In Head wounds, and any other, the computation of the Critical dayes must be made from the day of the wound, not of the feaver.

The same reason holds in a wound as in preternatural birth: for the feaver succeeding it is symptomatical, but the wound is the primary disease, from which the number of critical dayes must be deduced.

In relapses, the computation of the critical dayes must be instituted, from the beginning of the disease, not the relapse.

Recidivation is caused by the reliques of the precedent disease, which were not wholly evacuated, and therefore is taken for the same disease, the matter being the same; in which indeed there happens a remission of the feaver between the root of it and the relapse, but not a true intermission, as appears by the symptoms observed by *Hippocrates*, when he saith, *If any thing of that which is effused, be left within, it inclines to relapse, thirst left within, exsiccation of the mouth, and insuavity, by the same reason as all the rest are signes of the imperfect solution of a disease.* Therefore because he that is surprised with a relapse, is not yet fully freed from those accidents, the computation must be one, for that the solution of the former affection was not total, but partial only. So *Hipp.* in *Epid.* perpetually numbers the days from the precedent disease, never from the relapse, as appears in the Histories of *Hermocrates*, *Anaxion*, *Herophon*, *Cleanactis* Wife to *Epicrates*, and others.

CHAP.

Chap. VI.

Of the causes of a Crisis, *and Critical dayes.*

A Crisis *is a kind of a compound, comprehending Conturbation, Evacuation, and sudden mutation to health.*

Conturbation is a plenty of critical symptomes, arising from the agitation of morbifick matter. But this agitation proceeds, either from an external cause, such as of the Heavens, and the motions and influences of the stars: or from an internal, as from nature her self.

HOw the influences of the Stars effect critical motions, shall be after explained. But now nature in a critical conturbation agitates the morbifick humors because they being separated from the laudable and gentle matter: provoke nature more, which upon this irritation is excited to expulsion, for though those humors be concocted, yet they are not wholly reduced to gentleness; and therefore by molesting nature with their acrimony and some malignant quality, they cause her to ease her self of this trouble by excretion.

The cause of Evacuation is the expulsive faculty, which excited either by the copiousness or the quality of the matter, critically expels all molestations.

The expulsive faculty is one of those, which are termed natural subservient, performing its duty by the help of native heat, and spirits, as also by the fibres implanted in every part.

But why Crisis *or critical evacuation happens in the septenary and quaternary dayes, rather then at other times, depends upon the motion of the Moon as its principal cause.*

The cause of a *Crisis*, and the cause of critical dayes are to be distinguished, as things differing in the whole latitude of the *genus*. For the cause of a *Crisis* is the expulsive faculty, thrusting out that which is troublesome. But when we enquire after the causes of critical dayes, we observe not what expels the vitious humors out of the body, but why the expulsive faculty doth not use indifferently all, but some solemne dayes, on which it expels these troublesome things more frequently, and easily: but this depends upon the motion of the Moon effecting these motions by her various aspects.

The Moon is very predominant over these inferiour bodies, especially over humid ones, causing in them notable mutations, chiefly in conjunctions, appositions and quadratures, in which Crises *usually happen.*

What changes the Moon causeth by her various aspects in this inferior world, and how by this means the winds and tempests are changed, how seed thrives, how crabs and shel fish are sometimes full, sometimes empty, is well enough known to Mariners, Husbandmen, and ordinary Women. But the chief subjects of this domineering Planet are humid bodies; whence it is no cause of wonder, that it should have so much authority over the humors of our bodies, that it can move them on certain dayes, and by that excite a *Crisis*. This it most commonly does in its aspects, by whose Arithmetick the critical dayes are numbred: for the first aspect of the Moon is the Sextile, or left hexangle happening on the fourth day. The second, quadrate or the left tetrangle, on the seventh day. The third called the left triangle, on the eleventh. The fourth called opposite, or diametral, on the fourteenth day. The fifth, the right triangle, on the seventeenth day. The sixth, the tetrangle, or right quadrate, on the twentieth day. The seventh, the sextile or

right hexangle, on the foure and twentieth day. The eighth in conjunction, on the seven and twentieth day. But these days are extended to some latitude, as we shall hereafter inform; it will suffice here to note, that the Aspects of the Moon and the Critical days have the same computation, which was proposed in the *precedent Chap.*

The Motions of Critical dayes depend not on the Aspects which the Moon hath with the Sun, but from those which she hath with the Signes of the Zodiack, and that place in heaven, in which it was in the beginning of the Disease.

If the *Crises* were moved by the appearances of the Moon with the Sun, there would be no order observable in Critical dayes, because all sick persons, whatever day they began to be sick, would on the same day be subject to a *crisis*; for instance, in the beginning of a full Moon, when she opposeth the Sun; or in new Moon, when conjunction is caused, or in the quaternions. Therefore we must think that the *crises* depend not on such aspects; but rather from the aspects of the Moon to that Signe, and to that place of the Zodiack, in which it was in the beginning of the disease, and so on the seventh day of the disease the Moon is in a quadrate aspect to that place, and on the fourteenth in an opposite, and so of the rest.

The computation of Critical dayes is not to be instituted according to the Synodical Month, which is also called the Moneth of Conjunction, nor according to the Moneth of Apparition or Illumination, nor according to the Medicinal Moneth, but according to the Periodical Moneth, or the Moneth of Peragration.

The *Synodical* Moneth is that time which intervenes between two conjunctions of the Sun and Moon, consisting of twenty nine dayes and thirteen hours, and so three weeks constitute not twenty, but two and twenty dayes and three hours: therefore according to this Moneth the computation of the Critical dayes cannot be made. The Moneth of *Illumination* or *Apparition*, is the interval from the first sight of the new Moon disappearing to that day, and it is in space twenty six dayes and twelve hours; nor can computation be made according to this Moneth, because three weeks amount to onely nineteen dayes and twelve hours. The *Periodical* Moneth, or Moneth of *Peragration*, is that time in which the Moon posts thorough the whole Zodiack, and returns to the same point she left, and this is extended to twenty seven dayes and eight hours, and so three weeks will make up twenty dayes and twelve hours. This also *Galen* would not admit to constitute the order of Critical dayes, therefore he invented a new Moneth, which he called *Medicinal*, compounded of the *Periodical*, and the Moneth of *Illumination*, which two being united, make fifty three dayes and twenty hours, which account halfed makes twenty six dayes and twenty two hours, and this half constitutes *Galen*'s Medicinal Moneth, three weeks of which make twenty dayes and foure houres: But this Moneth of *Galen*'s, all, both Physicians and Astrologers reject and contemne as fictitious, portentous, and deviating from truth, whose reasons for brevity sake we omit, because they are vulgarly known. It will be satisfactory to inform you, that the Decretory dayes are to be taken from the true motion of the Moon, which constitutes the Moneth of *Peragration*, and by which the forenamed aspects are constituted. But that Moneth of *Peragration* as is before mentioned, consists of twenty seven dayes and eight hours; and if it be divided into foure weeks, the first will be ended by six dayes and twenty hours, the second by thirteen dayes and sixteen hours; the third by twenty dayes and twelve hours. Nor is that Periodical Moneth to be neglected, for that reason which forced *Galen*'s invention to forge the *Medicinal* Moneth, but is rather the more to be accepted of, because it affords us a reason why the twentieth and one and twentieth dayes are numbred among the Critical ones. For though the twentieth more frequently judge, yet the one

and

and twentieth is not wholly to be rejected. And for this cause *Archigenes* and *Diocles*, whom we find by the testimony of *Galen* himself, *Book* 1. *of Decretory dayes, chap.* 2. very exact in the operations of Art, numbred the one and twentieth among the Critical dayes. But this is the reason why both of them are Critical dayes, because both of them concur to compleat the third week, whose last day borrowes twelve hours from the twentieth, and as many from the one and twentieth. But yet *Crises* more frequently happen on the twentieth, because upon the determination of the acute disease, Nature as weary of a longer trouble, encounters the disease in the first dawning of the Critical day, and endevours a *crisis*. But this beginning of the Critical day is in the middle of the twentieth, as the end thereof falls in the middle or twelfth hour of the one and twentieth. It is also *observable*, that the motion of the Moon is sometimes slower, sometimes swifter, and according to the swiftness of it the *crisis* happens sooner, but according to its slow progress the *crisis* appears later, and therefore a certain number of hours cannot be assigned, in which the *crisis* may happen, but in a wide conjecture the seventh, the fourteenth, and the twentieth dayes are to be noted. As *Hippocrates* seemed to signifie *in 6 Epid.* where to the number of the dayes he hath added that prepositon *about*, *viz.* about the twentieth, about the fortieth, and so forth. Besides, the *crisis* doth not alwayes begin and end the same day, but is sometimes extended to more dayes, and perturbation begins on the twentieth, but the *crisis* ends on the one and twentieth: But the whole continuance of time in perturbation, conflict, and excretion, is usually termed the time of the *crisis*.

Besides the principal cause, which is the motion of the Moon, we must acknowledge two other causes of the Critical dayes less principal, viz. *the motion and disposition of humors, as also the nature of the sick party.*

Although the virtue of the Moon be most available in constituting of Critical dayes, yet by it self it is insufficient, otherwise in all sick persons the same *Crises* would happen in the same number of dayes; But the thing runs otherwise, whereas some are subject to a *Crisis* on the seventh, some on the fourteenth, some on other dayes, to some good, to some bad. There are therefore other causes to which this diversity is to be attributed. For first the motion, and disposition of humors is the cause that a *Crisis* sometimes falls out sooner, sometimes later, sometimes also on the intercident or indicative dayes; for the humors upon concoction performed sooner, or later, and upon their acquisition of a favourable or malignant quality, sooner, or later excite nature: As also, if they are moved on this or that day from whence arise exacerbations of feavers, in which most usually *Crises* happen, as *Hipp. in* 1. *Epid. Acute diseases*, saith he, *are judged on the day of their exacerbation.* Lastly, The nature of the sick body, which as before is said, is the principall cause of the whole *Crisis*, or Critical excretion, and is also the less principal cause of the critical dayes, for as it is strong, or infirm it concocts sooner or slower the morbifick matter, and the quickness, or slowness of the *Crisis* depends upon slow or quick concoction, so when the morbifick matter is not concocted on the seventh day, the *Crisis* is deferred to the fourteenth, or the twentieth. For the Moon moves the humors every critical day, and excites nature to excretion; but this motion is frustrate, for nature leaves excretion unattempted, unless she finds matter prepared and disposed for evacuation, except this sometimes happen by extreme irritation, by reason of the malignity of the matter, which nature somtimes, though it be yet crude, lays out the utmost of her strength to expell: but this *Crisis* is unhappy, because it transgresseth the ordinary laws of nature. And this is enough to be said of the causes of *Crises* and critical dayes.

The Third Section of Pathology.

Of the Causes of Diseases.

The First Chapter.

Of the Nature of the Morbifick Cause.

That is the Cause of a Disease, which any way conduceth to it.

THis definition or rather explication of the morbifick cause is *most general*, which could not be any other, to comprize all the causes, considered in Medicine: for all those things which conferre any thing whatsoever to the generation of the disease, either by themselves, or by accident, mediately, or immediately are called by their name of Causes; as also all those things which are advantagious to the Disease either by conservation, or augmentation, or by any other means, as shall hereafter appear in the differences.

All the causes of diseases are referred to the efficient.

The Philosopher rallies all the causes of things under four heads, *viz.* the Formal, Material, Efficient, and Final; to the series of which all morbifick causes are to be referred. Yet here we cannot trace the four genus's of these causes: for that first the formal cause is nothing else, but the proper essence of every thing, but we have at large explained the nature and essence of diseases before. Next there is no material cause in diseases, for disease being an accident needs no matter, out of which it should be produced, but in which it should exsist, which is nothing else, but the subject thereof, or the parts of our body: As for the final cause, though the lesion of actions may be termed as it were such, yet this is by accident, as it follows the generation of the disease, but diseases by themselves and properly have no final cause, as neither all those things which are constituted in a kind of imperfection; therefore the efficient cause remains onely considerable in this discourse, which is here taken by the Philosopher not only for that from which the effect is first produced, but in a wider signification, as appears by our description, for all that which is in any manner conducible to the generation of the disease.

Chap. II.

Of the Differences of Causes.

The cause of a disease is either by it selfe, or by accident.

The cause by it self is when by its own proper, and implanted strength, without the intervening help of any thing else, it produceth a Disease.

But the cause by accident is, when any thing else is summoned, as auxiliary to the production of a morbous disposition.

SO cold water sprinkled upon our body, by it self and naturally causeth a chilness; but by accident, upon the densation of the skin, and contraction of the vapors within, it heats. So Scammony, being an extreme hot Medicine, by it self overheats the bowels; but by its powerful expurgation of choler, and hot humors, by accident it refrigerates, and cures a feaver. *And*

And there are causes of diseases; some principal, some helping, some without which nothing could be.

The principal cause is that which either gave the first motion to the effect, or is able alone to excite it.

The helping cause is that which produceth not the effect alone, but is auxiliary to the principal.

The cause without which nothing could be, is that which neither causeth the affection it self, nor performs any thing else; but without it nothing can be transacted.

The Gout is exemplary in all these three causes: for the cold constitution of the air, and the copiousness of excrementitious humors, is the principal cause of a defluxion into the joynts; the auxiliary cause is the tenuity of the humors; but the cause without which nothing could be, is the infirmity of the joynts, and laxity of the passages.

There is also one cause of a disease remote, the other nigh.

The remote is that between which and the disease, others intercede.

The near cause is that to which the disease owes its immediate production.

The proposed differences of causes are of frequent use in the Art of Medicine, but the succeeding are most frequent, and of great validity in the explication of all diseases; therefore in them we shall act the curious Scrutinists.

The causes of diseases are some external, some internal.

The external causes are those which either outwardly applyed, or differing from the constitution of our body, usually cause diseases.

The term of *external* seems not very convenient, because sleep, waking, and the passions of the mind are comprehended under it, which yet seems to be contained among internal things; yet because it hath found much acceptance with Physicians, therefore we also reject it not, averring those causes to be external, because many of them are outwardly applyed, as, the air, meat, drink, *&c.* But the rest, as sleep, waking, and the passions of the mind, are so manifest, that they are granted without any dispute for external positions; *Celsus* therefore calleth them *evident* by a very apposite term. Others call them procatarctick, precedent, and primitive, because from them the first original of diseases flows.

But of them some are necessary, some are unnecessary.

The necessary are those which do necessarily affect us, and inevitably light upon us.

Yet though they necessarily affect us, they do not necessarily introduce diseases, but they are neutrals, fluttering in an indifferency between health and disease; for by the orderly use of them health is preserved, but by the abuse, and immoderateness of them it is destroyed.

But they are six; 1 Air, 2 Meat and drink, 3 Motion and rest, 4 Excretions and Retentions, 5 Sleeping and Waking, 6 The Passions of the mind.

They are vulgarly called the six not-natural things, because by themselves they are neither agreeable to, nor disconsonant from the nature of mans body, but are made hurtful or useful according to the mode of well or bad using them. They are peculiarly handled in that part of Medicine which treateth of Dyet, therefore we omit the discourse of them.

The unnecessary are they which happen fortuitly, and not concurring to the ordinary use of life.

All fortuite things are comprehended under these, as the strokes of swords, or stones, the bitings of wilde beasts, *&c.*

The internal causes are those which lurk within our body imperceptible to sense, and discoverable only by an artificial conjecture.

So

So the humors, spirits, excrements, flatulency, vapors, particles of the parts themselves, and whatsoever is contained in them, or agnate to them, are circled into the nature of internal morbifick causes.

But they are either antecedent or concomitant.

The antecedent cause is that which is before the concomitant, and moveth it, and by the mediation of it effects a disease.

So in continuall feavers the antecedent cause is the matter fitted for putrefaction, the concomitant, which actually putrefies: So in swellings caused by humors, the flowing humor is accounted the antecedent cause, the flux the concomitant.

The Concomitant cause is that which immediately and by it self produceth the disease.

Examples of this are after proposed in the explication of the antecedent. But it is observable, that external causes are sometimes concomitant, as the sword, which immediately makes the wound, and therefore all the causes are not seldome divided into procatarctick, antecedent, and concomitant, omitting the consideration of internal and external.

The concomitant cause is again simply concomitant, or containing.

Simply concomitant is that, which if it be, the disease is; but if it be taken away, the disease remains.

So supposing the action wounding, the wound is supposed; but taking away the action, that remains.

Continent cause is that which being supposed, a disease is supposed, and being taken away that follows.

So supposing the stone, or some other matter causing obstruction, we must suppose obstruction, which if we take away, obstruction removes also. So taking away a sixth finger, making an excess in number, the error depending on that is taken away.

Hence it appears that all diseases have not a containing cause, but some onely, but all the rest have necessarily a concomitant cause.

Chap. III.

Of the Causes of Similar Diseases.

Thus far of the Causes of Diseases in their genus, *it follows that we handle them in their* species.

Five causes of a hot intemperature are alleaged: 1 *Motion,* 2 *Putridity,* 3 *The vicinity of an hot thing,* 4 *Constipation,* 5 *Meat and Drink over-hot; as* Galen *ch.* 2. *Book* 2. *of the Causes of Diseases.*

First, Motion heats the body by attenuating and violently hurrying the spirits.

MOtion doth not onely heat things animate, but inanimate also, as *Aristotle* 2 *of Meteors, ch.* 3. inanimate things by rarefaction, because that disposition is previous to heat, by which it effected the last preparation of the matter, for production of heat potentially out of it. But animals do more easily get heat by motion, not only by reason of that attenuation, but also because the spirits and heat which are actually in them, are diffused thorough the whole body, and thrust out to the superficies thereof. Whence if motion be immoderate, it produceth an hot intemperature. To motion are also referred anger, watching, and all other things, able to move the humors and spirts.

Secondly,

Secondly, putridity heats the body by external heat, which is alwayes introduced in its company.

Putridity is defined by *Aristotle*, *The corruption of native heat in every humid body by external heat.* But it is necessary that this heat should be very intense, that it may corrupt the native heat; whence in our bodies it will easily produce a hot distemper.

Thirdly, The vicinity of hot things heats the body by a Physical and Mathematical contact.

So by fire or Summer sun the body is heated by a Physical contact, by things hot applyed, as plaisters, baths, *&c.* and by a Mathematical contrary.

Fourthly, constipation causeth a hot distemper by accident, by reason of obstructed transpiration.

This is chiefly produced by swiming in a luminous water, by the application of emplastick and obdurating medicines, and other things increasing heat by *antiperistasis*, while they hinder the dissipation thereof.

Fifthly, hot aliments heat the body by producing in it hot humors.

As, the use of onyons, garleek, spices, and such like.

The causes of a cold distemper are six: 1 *Vicinity of cold bodies.* 2 *The quality and quantity of things assumed.* 3 *Constipation.* 4 *Rarity.* 5 *Over-much idleness.* 6 *Immoderate motion. As* Galen ch. 3. Book 2. of the Causes of Diseases.

First, the body is refrigerated by external cold, meeting with the concurrence of a fit disposition, &c. in the Patient.

So in Winter a body is often congealed by over-much cold: So bathing in cold water cools the whole body.

Secondly, the excess, defect, and incomplying quality of aliments, can induce a cold distemper.

Excess of aliment chokes the native heat, whence arises a cold distemper; so an epilepsie or apoplexy is the result of frequent drunkenness.

The defect of aliment causes the dissipation of heat in the parts, as having not food sufficient for its conservation.

Whatsoever is assumed naturally too cold, as lettice, poppy, mandrakes, and the like, do very much cool the body by themselves.

Thirdly, much constipation chokes the heat, whence proceeds a cold distemper.

Slight constipation causeth an hot distemper, by hindring the dissipation of heat; but much & immoderate constipatiõ causeth a contrary affection by suffocating heat.

Fourthly, rarity dissipates and resolves heat, whence by accident it induceth cold.

Fifthly, idleness refrigerates the body, for that the native heat languisheth for want of exercise. Sixthly, the native heat is dissipated by immoderate motion, whence by accident it refrigerates.

Of a dry temperature the causes are two: 1 *Alteration.* 2 *Resolution.*

First, those things dry by alteration, which have strength enough to exiccate the body.

So drying aliments & medicines, & a dry constitution of the air, do dry the body.

Secondly, those things dry the body by resolution, which cause a greater dissipation of the humidity of our body, than can be counterpoised by restauration.

So violent exercitation, the embraces of over-heated air, immoderate watches, resolves the humidity of the body. So humidity is dissipated by the hindrance of due reparation, which is caused by care, and anxiety, hunger, or food affording small nutriment, such as is very excrementous and astringent, because it hinders the distribution of nutritive humor thorough the members.

Humid intemperatures are ascribed to two causes: 1 *Alteration.* 2 *Retention of humid things.*

First, those things introduce a moist intemperature by alteration, which are very prevalent in moistning the body.

So the immoderate use of moist meats, copious tipling of water, a moist constitution of the air, a bathing in warm water, and such like, the usual product of which is a moist distemper.

Secondly, a moist distemper is said to be introduced by retention of things humid, when some customary evacuation is suppressed.

Amongst the usual evacuations are numbred not those onely which are sensibly made, but those also which are made insensibly, *viz.* by insensible transpiration.

And these are the causes of simple distempers.

But the causes of compounded distempers may easily be gathered from those before named, viz. *by joyning all the causes which the two peccant qualities are able to produce.*

But the immediate causes of compounded tempers are principally peccant humors; and these distempers are like the peccant humor; for choler causeth the hot and dry, flegme the cold and moist, and so of the rest.

But those humors become copious in the parts two wayes: 1 *By fluxion,* 2 *By congestion.*

Fluxion is caused two wayes: viz. *when either the humors are expelled by the mission of the parts, or when they are attracted by the reception of them.*

In fluxion which is caused by expulsion two conditions are requisite, viz. *first, the strength of the part expelling; secondly, the imbecility of the part receiving.*

So the liver by its strength expels preternatural humors to the groin, or the skin (parts naturally infirm) producing in them swellings, itch, and other affections.

In fluxion caused by attraction, two conditions principally concur, viz. *the heat, or pain of the attractive part.*

Attraction is proper to heat, therefore the hot parts are prevalent in attraction: but being sensible of pain they seek help, therefore they attract the humors, and spirits to their rescue, which after by reason of their copiousness they cannot keep in good order, which is the cause of divers affections.

Secondly, by congestion the humors become copious in the parts, in default of the nutrition of them.

So when in some part the aliment is not well assimilated, or the expulsion of excrements generated in assimilation, then superfluities abound in it by congestion.

Chap. IV.

Of the Causes of Organical diseases.

The natural shape of the parts is perverted either in the first generation or after it.

In the first generation, when the formative virtue is unable to fashion all the parts aright, which is caused upon three grounds. 1 *By reason of the imbecility of the formative virtue.* 2 *By the defect in matter.* 3 *By an hereditary disposition.*

First, the parts are ill-shaped by default of the formative virtue; when a mans parents are of a very infirm nature.

Secondly, by default of the matter, viz. *when it is peccant in quantity or quality.*

It is peccant in quantity, when it is too copious or deficient.

It is peccant in quality, when it is too dry or moist, &c.

Thirdly,

Thirdly, by an hereditary disposition, when a Mans parents are ill-shaped.

And so in the first generation diseases are caused in the shape.

After the first generation they are contingent, in, or after the birth.

In the birth, by preposterous commotion, or inconvenient eduction.

For instance, when an infant starting from the wombe, puts forth his foot, arm, or sides, while by his own bulk, or the narrowness of the wombe, it endevours its *exit* too much, or is unskilfully handled by an ignorant Midwife.

After birth the shape of the parts is deformed by many external and internal causes.

External causes mishaping a man, are when the infant being yet tender is not conveniently entertained in swathings, or is rashly crushed any other way: as also, if any member broken or dislocated, fall not into the hands of a good Artist in Chirurgery; or if they being well restored by the error of the patient distorted to a relapse; or disordered by a fall, stroke, or too much motion and agitation.

But by internal causes the shape is unfashioned, when the humors are rallied copiously in the parts, as is evident in preternatural tumors, in the face of Lepers, in the belly of hydropical men, and such like.

Astriction, obstruction and dilatation, are produced by a multitude of causes, which coarctate, obstruct or dilate the passages or cavities, which to number to a particularity is a task almost impossible.

Asperity and levity is produced by many causes internal or external.

For instance, bones wounded, broken, or eroded, loose their natnral lævity; the inner part of the *aspera arteria* is unequal, and causeth an hoarse and inharmonical voyce, being drench'd with too much humor, dry, deterse, or ulcerated, which reason also will hold good in the rest. But in parts naturally rough, and rugged, lævity is caused by viscid and glutinous humors, adhering to the uncertunicles, as in a *Lieuteria*; so also things wounding, and eroding by accident, when a skar is induced on a cured ulcer, by which that internal superficies is more smoothed, and lesse fit to contain.

Magnitude is increased in the body by too much plenty of blood and fat.

Magnitude is increased in a part, either by affluxion of laudable blood, or vicious humors collected by fluxion or congestion.

So in some women the caule grows very fat, by reason of the plentiful affluxion of blood, and enlarges to such a bulk, that by compression of the orifice of the wombe it induces sterility. So vicious humors cause various kinds of swellings.

Magnitude in the whole body is diminished for want of aliment.

As in a *Pthisis*, *Marasmus*, and notable leanness.

Magnitude is diminished in a part, when it doth not take in convenient aliment, or cannot dispose of it.

The number of the parts is increased in birth, or after birth. In birth by the redundancy of seminal matter.

As when six fingers or three testicles are generated.

After birth, by vicious matter.

As appears in warts, or a *pterygium*, &c.

The number is diminished in birth, by defect of matter; after birth by all those things which are able to amputate or destroy any part.

The situation of the parts is changed, either by default of them, or the parts containing them, or the ligaments connecting them.

The situation of the parts is changed by default of the parts themselves, by their overmuch crassity or gravity.

So the caule or intestines being too crass, or too fat, are by their owne weight

of overburdened to a rupture, or else they dilate the *peritonæum*, and fall down into the *scrotum*.

The situation is changed by default of the parts containing, when they being broken or loosened cannot duely execute their office.

So when the *peritonæum* is by any meaus broken or loosened, it cannot keep the parts in it contained in their proper station.

The situation is changed by default of the ligaments, when they are too loose or infirm, so that they cannot retain the parts to the connexed in their natural place.

So the wombe, the *intestinum rectum*, and other parts do usually fall by too much extension, or the weakness of their ligaments.

The connexion of the parts is destroyed by many internal and external causes.

In the joyntings peculiarly the connexion is changed by three causes: 1 *By defect of an entertaining room,* viz. *an hollowness.* 2 *By defect of a bone to be entertained,* 3 *Of a ligament containing and making firm the articulation.*

First, there is a defect in the place entering, when either the cavity receiving is too broad or superficiary, or when the ridges are taken away, or the brims hurt.

Secondly, in the bone entertained there is a defect, when it is bigger or less than is convenient, or any other way out of shape.

Thirdly, there is a defect in the ligaments, when they are too loose or infirm.

From all these causes luxations are usually produced; to which may be added violent and innordinate motions.

Chap. V.

Of the Causes of common diseases.

THE Causes of common diseases were proposed in the recital of their differences, because they are thence derived; therefore lest the repetition of them should be vain, we refer to the *fifth chap. of the first Section.*

Chap. VI.

Of the Causes of the Accidental differences of diseases.

THE same causes which usually concur to the production of Similar, Organical, and common diseases, are also the causes of Accidental differences, as they are fraught with various conditions, *viz.* if they be intense or remiss, light or obstinate, gentle or malignant, or any other way affected, they cause diseases great or small, acute or chronical, gentle or malignant, and such like.

The

The fourth Section of PATHOLOGY.

Of the Nature, Differences, and Causes of Symptomes.

CHAP. I.

Of the Nature of Symptomes.

A Symptome is a preternatural affection following the Disease, as the effect of its cause, and not being able to subsist without it.

THIS term *affection* is here taken in a signification somewhat more large than in the definition of a disease; whereas not all symptomes have a permanency or position of parts in their subject, but most part of them have a positive essence in a tendency to being; for actions either whole, or not well hanging together, consist in the motion of the parts, and are perpetually in a tendency to perfection. Excretion and retention is proper to them so long as they are in that progress, if we consider them in the mood of their formality. But the simple or patible qualities are sometimes fix'd and permanent. We also alleage, that symtomes follow the disease, because (as we said) they are by it effected; but the effect is the attendant of its cause, whence it also appears that it is different from its cause, for that the cause of diseases precedes, but the symptome follows. But for the more clear understanding of the nature of symptomes, the succeeding Theorems are proposed.

Every symptome depends mediately or immediately on a disease.

The chief symptome is injured action, immediately depending on a disease, which is able to produce another in excretions and retentions, and that to induce a change of qualities, which yet depend upon the disease as their true cause, some mediately, some immediately, as is before mentioned.

The symptomes may arrogate to themselves the honor of causes, never of diseases.

So nutrition hurt is the cause of the consumption of the parts, and leanness: So excrements imprisoned in the body, cause feavers, obstructions, humors, and such like; and so the symptomes become the causes of diseases, but never presume to take the nature of a disease, as being unable by themselves to injure the actions. For though some diseases be called symptomatical, because they are consequents of others; as a feaver, which follows a pleurisie, or any other inflammation, which is in it self a true disease, yet in respect of the disease on which it depends it is called a symptome. Yet certain it is, that those diseases are improperly termed symptomes, because they follow other diseases as symptomes, but yet they are not the immoderate production of them, but mediate by some true symptomes (for as by humor, or vapor) which are the after-causes of diseases.

Chap. II.

Of the Differences of Symptomes.

There are three kinds of Symptomes, action-hurt, default in excrements, and quality changed.

Action-hurt is the chief and principal symptome, which immediately followes the disease, and from which the rest are generated and depend. Default in excretions follow the lesson of natural actions, by which the aliments are ill affected, corrupted, or tainted with some evill quality; or lastly, are naturalized to a contrariety infestious to the body: But by Excretions we here understand, not onely true excrements, but also all those which preternaturally issue out of the body, as sand, the excrements of the parts themselves, *&c.* But quality changed follows the before-mentioned symptomes, and under it are contained all patible qualities perceptible by sense, and inherent in the body it self, or in any part thereof, as colours, smell, taste, and the like, which in their proper place shall more at large be explained.

Chap. III.

Of the Differences of Action-hurt.

The differences of Action-hurt are taken either from the differences of læsions, or from the divisions of the actions themselves.

The differences of læsions cause a triple difference of hurt-action: 1 Action abolished, 2 Dimished, 3 Depraved.

1 *Action abolished is that which is impossible by any means to be restored.*

As sight in blindness, and hearing in deafness, are said to be be abolished, because they cannot by any means be exercised. Yet there is action called abolished as to the judgement of the sense, as motion and sense in an apoplexy, and in a suffocation of the wombe.

Action diminished, is that which is infirm, and scarce exercised, and requires more time for perfection, or never arrives to a just proportion thereof.

So the weak concoction of the ventricle, or function of any other part, imperfectly exercised, is said to be diminished.

Depraved action is so called, either when it is corrupted, or not exercised as it ought to be.

Action is termed corrupt when it changes its object into another quality, as when the ventricle changeth the aliment into nidorous juices, as porraceous choler, or matter, wholly putrid. It is not exercised as it ought to be, in cold palpitation, hiccough, *&c.* because in these affections the parts are unduely agitated, or too violently provoked by a preternatural object.

From

From the differences of action, Action hurt is threefold; 1. Animal. 2. Vital. 3. Natural.

These branch out again into as many differences as in Physiology are proposed of animal, vital, and natural actions.

The animal actions are in Phisiology divided into Sensitive, Motive and Principal. The Sensitive actions are five, Sight, Hearing, Taſt, Smel and Touch. All theſe as before is declared, are ſubject to abolition, diminution, and depravation. The Sight is aboliſhed in blindneſs, diminiſhed in obtuſion, and dulneſs, depraved in hallucination. The Hearing is aboliſhed in deafneſs, diminiſhed in ſlowneſs of hearing, depraved in the tinckling of the ears; and thus it is eaſie to conjecture of the ſymptomes of other Senſes. Motion is aboliſhed in the palſy, diminiſhed in ſtupidity, depraved in convulſions, trembling, cold, *&c.* So the principal actions, ratiocination and memory are aboliſhed in a carus and apoplexy, diminiſhed in fondneſs and lethargy, depraved in phrenſy and madneſs.

The Vital actions conſiſt in the Pulſes, which alſo are frequently aboliſhed, diminiſhed or depraved.

Laſtly, the natural actions, concoction, retention, attraction, and expulſion are accompanied with as many ſymptomes. The Concoction of the ventricle is aboliſhed in *inconcoction*, diminiſhed in *ſlow concoction*, and depraved in *bad concoction*. So we muſt judge of the other differences of actions, all which ſuffer under as many differences of læſions, of which many are not yet particularized by proper terms.

A Corollary,

Concerning the Differences of hurt Actions.

In the number of hurt actions is reckoned that which is termed a preternatural auction, ſuch as a canine appetency, great thirſt, *&c.* But it is dubious to what *ſpecies* it ſhould be referred? The vulgar anſwer is, that it is contained under the notion of depraved action, becauſe it is amiſs, and perverſly exerciſed, which is the condition of depraved action: but it is objected, that if this opinion hold, that diminiſhed action ſhould alſo be placed under depraved, ſince action increaſed and diminiſhed ſtand in a direct contrariety, and therefore ought to be placed under the ſame *genus*. It is anſwered, That in matter of diſeaſes and ſymptomes it is not a Phyſicians buſineſs to conſider the trifles of Logical contrarieties, but only thoſe diverſities by which our bodies are preternaturally affected: and ſo action increaſed ſtanding in a wide diſtance from action diminiſhed, as well in reſpect of the cauſe, as of the manner of operation, when as we ſaid it is amiſs and perverſly exerciſed, it is in right reaſon contained under depraved action, and diſtinguiſhed in the whole *genus* from action diminiſhed in a Medicinal conſideration.

Chap. IV.

Of the Differences of Excrements.

Excrements may be peccant four wayes; 1. In Substance. 2. In Quantity. 3. In Quality. 4. In the manner of Excretion.

First they are peccant in Substance, when they have a Substance quite different from that of vulgar Excrements.

AND they are said to be preternatural in the wide extension of their whole *genus*.

And they are twofold, either wholly aliens, or consisting of natural things.

The stone, maw-worms, *&c.* are mere strangers to nature. Excrements consist of natural things, when the blood, fat, a part of the flesh, or some such thing, is driven out as an excrement, which ought by all means to be retained.

Secondly, Excrements are peccant in Quantity, by reason of excesse or defect.

When either their effluxion is too copious, as in a *Diarrhœa*, *Dysenteria*, *Diabete*, plentifull sweat, and profuse issuing of blood; or when they are more sparingly than is convenient, or not at all evacuated, as in a constipation of the belly, suppression of Urine, *&c.*

Thirdly, the Excrements are peccant in Quality, either in the First, Second, or Third.

In the First, when they are too Hot, too Cold, too Moist, or too Dry.

In the Second, when they are thin, or thick, or soft, viscid, or spumous.

In the Third, when they have a strange colour, Smel, or Tast.

Fourthly, they are peccant in the manner of excretion, when they are not expelled in due time, or not thorough the usual parts; or when they are too soon, or too slowly evacuated.

Chap. V.

Of the Differences of changed Quality.

The Qualities of the body changed, are first, second, or third.

BUT they that may deserve the name of symptomes, must depend on some disease.

The first Qualities are heat, cold, moisture, and dryness.

The second are, Hardness, Softness, Gravity, Levity, Rarity, Density, Lævity, Asperity, and the rest.

The third are Colours, Smels, Tasts, Sounds.

A Corollary,

Concerning the changed Qualities.

Among the changed qualities we place, Heat, Cold, Moisture, and Dryness, which were before referred to the similar diseases, which knits a knot, difficult of resolution, which we thus untye, by averring, that slight distempers which are only in a way to perfection, and have no permanence in the part, cannot be reckoned among

among diseases, but are rather termed symptomes, and changed qualities, which by the vicinity or sympathy of some parts, a morbous distemper being raised, are generated and preserved.

Next asperity and lævity are here with the changed qualities, which were referred to organical diseases. To this *it is answered*, that asperity and lævity, if they be very remarkable, so that they manifestly injure the actions of those parts, wherein they reside, are true diseases, but if they be so slight, that they are not at all troublesome to the actions, and yet are produced from a preternatural cause, as an humid or dry distemper, it is a convincing evidence that they are true symptomes.

CHAP. VI.

Of the Causes of Symptomes in the genus.

Every Symptome depends upon some disease, as its proper cause.

THIS is chiefly demonstrated in hurt-action, which is the immediate effect of a disease, as appears by its definition. Besides, it is undoubtedly true, that the changed qualities do proceed from the first qualities, which constitute the temperament, which when it conforms to nature, cannot produce qualities changed according to nature, which it is evident do perpetually flow from the distemper. Lastly, seeing there happens no default in the excrements, unless the concoctive, expulsive, or retentive faculties be vitiated, it is very certain that this proceeds perpetually from some disease.

But the causes of symptomes in their *species*, and the history of all diseases are exactly proposed in *particular Pathology, chap.* 7. We will here illustrate onely by some examples, for the better knowledge.

CHAP. VII.

Of the Causes of Injured actions.

The animal actions are usually hurt by various differences of distempers, organical diseases, and solutions of the continuum.

SO by the cold and moist distemper of the brain in excesse the animall actions are abolished; as appears in folly and forgetfulness, and by a more remiss distemper they are diminished, as in fatuity and stupidity, as also they are depraved by an hot distemper, sometimes simple, sometimes in conjunction with siccity, as in a phrensie and madness. Those actions are also sometimes offended by organical diseases, as by obstructions and various tumors, and by solutions of the *continuum*, as by notable wounds in the head.

The vital actions consisting in the palsies are abolished, depraved, or diminished by an hot and cold distemper principally by obstruction and solution of the continuum, *according to the various intension or remission of causes.*

So in feavers the pulse is depraved, abolished in a syncope, and diminished in a lipothymy.

The private natural actions are hurt only by similar diseases, but the official by organical also.

The private natural actions related to nutrition, *viz.* the attractive, retentive, and expulsive, are perfected by the temper onely, therefore distemper onely can hurt them; but the official want the various conformation of those parts, by which they are exercised; they therefore are hurt by organical diseases also. So the action of the ventricle, liver, or any other instrument, is sometimes perverted by an *Erysipelas*, a *Phlegmon*, and other preternatural tumors; and hence the concoction is depraved or diminished. So also official attraction is hurt, when by a carnous swelling, or any other tumor arising in the throat, the way is block'd up against food, or else the attraction of it to the ventricle is very difficult. Retention likewise is hindred by the same causes, as also by the copiousness of flatulency. And lastly, expulsion is hindred by the narrowness and obstruction of the passages, or also when it is too much provoked and accelerated by dilatation or vellication of the part.

Chap. VIII.

Of the Causes of Symptomes which are in Excrements.

The errors in Excrements depend perpetually upon diseases, but most usually by the mediation of the detriments of actions: In this manner:

Too great a quantity of excrement depends either upon the weak retentive or expulsive faculty (of the part by which excretion is made) provoked by some vicious quality, or exceeding quantity of humor.

So a *Diarrhœa* is caused by sharp and bilious humors, as also by the overflowing of some humor.

A vacuation also of the excrements too plentiful, is caused by defect in the part containing, by reason of which it is disabled to contain.

This happens when the orifices of the vessels are open or eroded by an internal or external cause, or onely debilitated, as appears in excretion of blood, caused by *the anastomosis, diabrosis*, or *diapeidisis* of the veins.

The quantity of excrements is diminished, either when they are sparingly generated, or when the retentive faculty is too strong, the expulsive too weak, or when the passages are narrow and obstructed.

The excrements are sparingly generated either by paucity, crassity or dryness of aliments; or by contrary vacuations, which do usually hinder the customary ones, or by too much resolution of the whole body.

The reason of other causes is obvious.

CHAP.

Chap. IX.

Of the Causes of changed quality.

The Symptomes which consist in the first qualities, are caused by the distemper of neighbouring or sympathizing parts, as is said.

But those which are related to the second qualities, depend upon the various vitiosity of humors, or distemper of the parts.

So hardness is produced by dryness, tension, and congelation; softness by humidity, and so forth.

Lastly, as to the third qualities these are the causes.

Colour is changed in the part, either by distemper, or by some humor lodged under its superficies.

So by a hot distemper the parts are red, by a cold one pale; so Choler diffused thorough the body causeth the yellow colour of men jaundised.

Vitiated smels arise from the putridity of the humors, or of the parts: Strange tasts by the excrements touching upon the tongue: Preternatural sounds, by flatulency inclosed in some part, according to the various agitation thereof, the narrowness or largeness of the parts, and strength or weakness of the elevating heat.

These seem to be fitly referred to the qualities of excrements, which yet are so distinguished, that those qualities which are referred to this kind of simple affection, ought to be in and depend upon the parts themselves; but those which are referred to the kinds of excretions, ought to be in the excrements as their proper subjects, and to depend upon them alone, as their quality, quantity, and substance.

The third Book of Medicinal Institutions: Containing the *Semeiotick* part.

The Preface.

A Physician ought alwayes in the legitimate and rational cure of preternatural affections, to observe this method: First, he must act the industrious Scrutinist, in enquiring after the nature and causes of the proposed disease, and the situation or the part affected. Secondly, he must make a diligent search, whether the cure be not desperate, and the disease incurable; that hence we may gather, that remedies fit for the acquisition of health are to be applyed, if our Art upon serious inspection promise a recovery; or if the prevalent disease delude our skill to a despair; forthwith to abstain from administring any thing, lest those applications which have procured health to any, should be undervalued to a disesteem.

The institutions therefore of those signes are necessary, by which we reap this advantage, that thereby we are enabled to a knowledge of the present dispositions of the body, and to a presage of future events. We shall dissect this whole *Semeiotical* Treatise into three Sections, the first of them shall handle the Signes in their *genus*. The second shall treat of the Diagnostick Signes. And the third of the Prognostick Signes.

The first Section.

Of the nature of Signes in their *genus*.

Chap. I.

Of the nature and definition of a Signe.

A Signe is by Physicians defined, That which being obvious to the senses, signifies something lurking in ambush within the veil of our body.

IN which definition it is observable, that the name of Signe is used here in a wider sense than we find it in *Aristotle*. For he instructs us to call those only Signes which are derived from effects. But we in this notion comprehend all those things which cannot give us any intelligence, how affairs are transacted in the little world of our body; which Signes are to be circled into a certain *genus*, or to randezvouz at the general fountain-head of Signes, after we have in short delivered some common differences of them.

Chap.

CHAP. II.

Of the Differences of Signes.

All Medicinal Signes are by Galen *(in his* Ars Parva*) divided into healthy, unhealthy, and neutral.*

ON healthy Signes we shall not long insist, because a state of salubrity is easily known by the good temper of the body, the due conformation and union of the parts, and by the result thereof, the integrity of all actions; unhealthy Signes also are clear enough by the contrariety. But a neutrality of disposition, like a *medium* interceding between salubrity and insalubrity, will easily be evident upon knowledge of the extremes.

But we must chiefly apply this discourse to unhealthy Signes.

And they are divided into Pathognomonical, viz. *signifying passion, or conventional and concomitants.*

The Pathognomonical, or those that signifie passion, are they which perpetually associate themselves with a disease, entring with it, und departing with it, being diminished or increased according to the magnitude of the disease, and follow the proper essence of the disease.

So in the Pleurisie, a pungitive pain of the side, difficulty of spiration, a rough bloody spittle, and an assiduous feaver, are called Pathognomonical signes.

The Conventional or concomitants are those which do not necessarily cohere to diseases, nor are signes of their essence, but of other accidental contingencies, as the magnitude, manner, or event of diseases.

And in this respect they are threefold: Some discovering coction and crudity; some health and death; some lastly, a crisis *and solution of the disease.*

But these signes of a disease do appear for the most part not from, but soon after the beginning of the disease. And in this respect they are called ἐπιφανόμενα, *that is,* after-appearances; *or also* ἐπιγενόμενα, *that is,* after-productions; *though Authors do not seldome distinguish these two terms.*

Again, some of the Signes do inform us of the present state of the body, called Diagnostick *or* Demonstrative; *others presage the future, and are called* Prognostick; *others lastly discover things past, and are called* Anamnestick *or* Commemorative.

But because the state past is recalled to memory, either for the better knowledge of present dispositions, or that we may be forearmed to grapple with their future events, therefore it is fit that the Commemorative signes should be comprehended under the Diagnostick and Prognostick.

CHAP.

Chap. III.

Of the General Originals of signes, from whence they are all derived.

THat we may draw forth all Medical signs by the clue of an easy method, we must lay down some general heads, to which all the signs of any thing proposed may be summoned in, and from whence they may again be artificially deduced.

Whereas therefore the essence and nature of every thing being any way enquired into, discovers to us, not onely what the thing is in it self, but many other things also belonging to it, the first *genus* of signes shall be taken from the nature of the thing in which we act. Next, seeing there are two pathes which guide us to the knowledge of any thing, one by somewhat preceding, that is the cause, and the other by somewhat succeeding, and that is the effect, it will be necessary that we propose two other *genus* of signs, one derived from the causes; the other from the effects.

There are then three general heads of signs, viz. *The Essence, Causes, and Effects.*

Essence here is stretched to a large and Medical sense, comprehending not only the form of the thing it self, but also the *genus*, differences, parts, and proprieties whether essentiall or accidental.

Under the term of Causes are touched all those kinds of Causes, which are in Physick considerable.

The term *effects* includes a variety, conformable to the variety of causes.

All which heads of signs shall be by parcells anatomized in the particular inquiry into signs, as their use shall require.

But we must here observe, *First*, that signs cannot be deduced from all the heads, to instruct us in every particular thing. For the essence of a thing doth not seldome involve it self in a mantle of obscurity, and lies imperceptible to our apprehensions: and the causes sometimes afford us no exact indication, other times the effects are confused. But by the proposed heads of signes, some footsteps alwayes discoverable, by which if we track the thing, Medicine will according to her ability evidently demonstrate it: so that sometimes we derive necessary signs from the effects alone, sometimes from the causes, sometimes from the essence, sometimes from two together, and lastly, sometimes from all, which exercitation it self will easily discover.

Observe, *Secondly*, That most commonly we descry more and more infallible signs from the effects, then from the two other heads.

Observe *Thirdly*, That of the proposed signs as to indication, some are of more, some of lesse efficacy, but yet by rallying up all, we draw a concluſive demonstration of the thing which we enquire after.

Observe *Fourthly*, That we must perfectly understand the nature, causes, and effects of all those things which are in our body, or contingent to it, that we may not erre in deducing signs from the proposed head. And we must be so well furnished with the precepts of Physiology and Pathology, that we may not here be destitute to shew them as often as occasion of use shall require. Otherwise these Semeiotical instructions, though they be laboured out to a prolixity, wil all be but as waste paper.

THE

The Second Section of the SEMEIOTICAL Parts: Of the Diagnostick signs.

The First CHAPTER.

Of the signs of bilious Humor predominant in the whole body.

THE knowledge of the temperament and humor predominant in the whole body is necessary for the understanding the *species* of the affection, and the productive cause thereof. Therefore before we discourse of them, we must first propose the signs of humor predominant in the body, beginning with Choler.

But it is first observable, that there are only two heads, from which we take the signs of humors, *viz.* the causes, and effects, for the essence in this case gives no light.

That therefore we may lance the skulls of these heads and see what they contain, we must orderly run thorough their *genus*, and *species*: at least all those, which may be usefull in directing us to the knowledg of humors; which that they might not be burdensome to memory are digested into the following Tables.

To this referre the Table noted with the letter *A*.

By the observation of this order, we shall descry Choler predominant in the body by the indication of

The Material Causes.

The Quality of Aliments. Feeding on hot and dry meats, drinking noble wine, old, or new, which are easily convertible into Choler.

Quantity. Order. Defect of aliment, as famine, food very smal and sparing.

Sweet things eaten after a meale, because by long coction they convert into Choler; as experience instructs us, that after some space of time they grow bitter by artificial coction.

Use of hot Medicaments, as Spices, *&c.* which degenerate to Choler.

Medicaments. Retentions. Customary evacuation of choler thorough the belly, by Urines, Vomits, or Sweats, flowing either voluntarily, or driven out by Medicines, suppressed or intermitted.

The Efficient Causes.

Parts. An hot and dry temper of the ventricle, liver and heart. Because these parts are able to disseminate an Affection thorough the whole body.

Descent. Parents of a bilious temper.

Age. Youthfulness, that space chiefly which intervenes between eighteen, and thirty five.

Sex. Virile sex, for they are accounted more bilious, as women more pituitous.

Region. A Region hot and dry.

Time. Summer season.

Aliment. Meat and drink of a calefactory and exsiccating quality as onyons, garlick, all salt, and peppered things, which by overheating the liver, cause a copious generation of choler.

Exercitation. A laborious life, toiled with much exercise.

Venery. An over-vehement motion to venery, which sets the whole body on fire.

Watching. Too much watching by which the blood and spirits are inflamed.

Passions of the mind. Anger, cares, and violent commotions of the mind.

They are helped by things cold and moist; offended by things hot and dry; and fasting.

The

The Effects.

Animal Actions.

Ingenuity. A sharp and witty, ready and quick of fancy.
Passions of the mind. Teastiness, rage, boldness, jactation, desire of revenge.
Sleep and Watching. Very little sleep, and slight, and much watching.
Dreams. Dreams of fires, flames, contentions and tumults.
Senses. Lively, acute, quick, and expedite senses, chiefly hearing, to which siccity is very advantagious.
Swift and nimble, but soon tyred motions.

Vital Actions.

A great, frequent, and hard pulse.

Natural Actions.

Appetency. Want of appetite, and nauseating of meat, in summer especially.
Appetite to cold things.
A difficult toleration of hunger.
Thirst. Much thirsting, and frequent drinking.
Quick and speedy accretion, and timely Age, because the radical moisture is soon consumed.
A forward propensity to venery, by reason of the acrimony of the seed.
Venery. A speedy weariesomeness in venery: because the spirits of bilious men are very dissipable by reason of their tenuity.

The Passions.

Bilious men have a propensity which disposeth them for diseases, as burning feavers, and tertians, phrensy, and pleurisy; to bilious vomits, *Diarrhæa*'s, Erysipela's, blisters, and pimples in the face, *&c.*

Excrements.

By the mouth. Vomiting of humor thin, pale, or yellow, and bitter; or a bitter tast in the tongue.
The ears. Copious excrements of the ears, and very yellow.
Belly. Feculency very yellow.
Bladder. Urine thin and yellow, or also red, and flammeous.
The Purgations of the womb, somewhat yellow, or orange colour.

The Habit of the body.

Skin first quality. A skin to the touch hot and dry, the heat of it sharp, and biting especially in the hands.
Second. A skin hard and rough.
The colour of the skin, principally of the face, and eyes, pale, and yellowish.
Haires. Thinness of haire, by reason of the rarity of pores, which permits an effluxion of hairy matter.
Quantity. Quality. Yellow hair resembling choler, and somewhat black by too much expulsion, sometimes also curled; by reason of the dryness which turns the hairround: and bilious men become bald by reason of the siccity of the skin, and consumption of the matter of haires.
Passion. The hair soon growing, and soon falling.
The Latitude of the vessels. For dilatation is proper to heat: and the veins in the eyes apparent.
Flesh. A slender and lean habitude of body.

CHAP.

CHAP. II.

Of the Signs of pituitous humor predominant in the body.

Flegm predominant in the body is discovered by

The material Causes.

Quality of Aliments. A customary feeding on meats cold and moist, as fruits, hearbs, fish, meats made of milk, drinking of water, *&c.* for they are transmuted into flegme.

Quantity. Too great a quantity of Aliment, overwhelming the native heat, and generating crudities.

Time. Meats taken soon after sleep, or before sleep, before the concoction of the former.

Medicaments. Too long use of cold and moist medicaments, which as aliments degenerate into flegm.

Retentions. The omission of a natural assuefaction to evacuate flegm by vomit, or feceſſe, or of an artificial custome, by exercitation, or use of bath waters, stewes or purging, or diuretick Medicines, by the intermission of which flegm is copiously generated.

The efficient Causes.

Parts. A cold and moist temper of the ventricle, liver, heart, and brain.

Descent. Parentage of a pituitous temper.

Age. Old age, which in defect of heat, accumulates much flegme; as also childish age, by reason of gluttony, and unwary institution of diet.

Sex. Female sex.

Region. A Country cold and moist, abounding in pooles and marishes, or drench'd with great rivers, exposed to the fury of North windes, snowes, and showers; and those that lie to the North, this is the cause that most *Germans* are pituitous.

Time. Winter season.

Meat and drink. Meat and drink of a refrigerating and irrigating quality, as lettice, purslane, and summer fruit, and drinking of water, which by cooling the ventricle and liver, cause them to produce plenty of flegm.

Quiet. An idle and sedentary life.

Sleep. Much and profound sleep, especially after meat.

Passions. A life void of care, study, or anxiety, or one much troubled with them, because they, by dissipating the native heat, refrigerate the body.

By the use of things hot and dry they are helped, and by things moist and cold they are hurt.

The Effects.

Animal Actions.

Principal. Imagination good enough, and an easie apprehension of things, but a speedy forgetfulness, because on humid things impression is easily made, and as easily obliterated.

A drowsy and dull mind, a slow and heavy wit.

Remisse anger, and easily appeased.

Sleep. A great propensity to sleep.

Dreams. Dreams of cold, waters, rains, snowes, drownings, rivers, pooles, seas and white things.

Sense. A dullness of the senses.

Motion. A slowness, but continuance of motion, because the spirits being somewhat thick, are not soon dissolved.

Vital Actions.

Pulse. A smal, slow, and soft pulse.

Natural Actions.

Hunger. A dejected appetency, and this reason *Hipp.* gives, that old men can easily tolerate hunger.

Thirst. None or very little thirst.

Accretion. Slow growth, because the heat being weak requires much time to subdue the forces of moisture.

Venery. Slowness to venery.

The moderate use of which is advantageous to them, as reinforcing the heat, which thereupon concocts the flegm, and reduces the body to a better temper: but by the too frequent use thereof the body is too much cooled.

The Passions.

They are better in health in clear weather, in cold, and rainy worse.

They are subject to cold diseases, as catarrhes, dropsies, pituitous distempers, lethargies, palsies, and the like.

The Excrements.

By mouth and nostrils. The excretion of humor thick, white, and insipid conveyed thorough the nostrils and mouth.

The belly. Mucous and whitish feculency.

Bladder. White or pale Urine, and that thin, if there be obstructions, otherwise muddy, and thick with plentiful sediments.

Womb. The flowings of the womb in women white.

The Habit of the body.

Skin first. A skin to the touch cold: feet chiefly and hands very cold in winter.

Qualities second. A soft and smooth skin.

Third. The colour of the same white.

Hair. Hair soft and smooth, and from the beginning thin.

Second quality. Yellow hair, because flegm by longer coction is so coloured.

Third figure. Direct hairs, because the skin being void of dryness, the passages in it are easie, thorough which the excrements may freely passe.

Passions. Hairs of slow growth, but never disrobed by baldness.

Vessells. The narrowness of the vessels and no veins appearing in the eyes.

Flesh. A soft habit of body, and fat, yet not carnous.

Chap. III.

Of the signs of Blood predominant in the body.

The blood predominant in the body is evident by

The Material Causes.

The use of meates of good juyce and easie concoction, such as new bread, very white, and well baked, soft boiled egges, young flesh and of good nourishment, especially that of Hens, Partridges, Pheasants, Calfes, Kids, *&c.* clear fountain-water, generous wine, healthfully tempered.

Retentions. Suppressions of usuall vacuations, as of issuing of blood in the younger, of the Hemorroids in the more aged, or the monthes in women.

The

The Efficient Causes.

Parts. An hot and moist temper of the heart and liver.
Descent. Sanguin parents.
Age. The Age from Childhood to Puberty.
Region. A Country perflated by meridional, and Southerly winds.
Time. Spring Time.
Exercise. Idleness, or but little exercise, which creates an appetite, without any resolution of the body.
Venery. Unfrequent use of Venery.
Sleep. Sweet, and moderate sleep.
Passions. A Life free from care, exhilarated with joy, and mirth, and affluences of delights.
The large emission, and voluntary profusion of blood is commodious for such, and the discarding of all such things as may any way diminish the copiousness thereof.

The Effects.

Animal Actions.

Imagination. A happy imagination and comprehension of things, because moisture readily receives an impression.
Ratiocination. A dulness and stolidity of mind, profuse laughter, impudence, incontinence in very sanguin complexions: In others mirth, and hilarity of the mind, with easie and free discourse; and a great inclination to love.
Memory. A memory somewhat weak.
Sleep. Profound sleep, yet lesse than in persons pituitous.
Dreams. Dreams of red things, of mirth, pleasantness, marriages, gardens, musical notes, Kings, Princes, and Nobles.
Motion. Moderate motion, but heavy, and soon tyred.

Vital Actions.

Pulse. A great Pulse, slow, and full.

Natural Actions.

Hunger. A mediocrity of appetite, unlesse the humors abound, which breed satiety.
Thirst. Mediocrity also of thirst.
Venery. Inclination to venery, but not so much as in persons bilious.
An easie toleration of venery, by reason of the copiousness of seminal matter.

Passions.

An easie falling into continuall feavers, flegmons and little inflammations, *&c.*

Excrements.

Thorough divers parts. Frequent, and copious excretions of blood, expelled thorough the nose, womb, and Hemorroides.
The Bladder. Copious Urine of a laudable colour, and consistence, and sometimes repleniſhed with a multitude of contained in it.
Belly. Feculency ruddy, and of an indifferent consistence.

The Habit of the body.

Qualities. A skin hot and soft to the perception of the Touch.
Second. A florid and ruddy colour of the face.
Third hair. An indifferent plenty of haire, of a yellowish colour, and a speedy generation of them.
Vessels. Indifferent largness of the vessels.
A carnous, and well compact habit of the body.

A Corollary.

A true Plethorick, void of all Cacochymie, is discovered most usually by the same signs, if we add an extension of the vessels, and voluntary lassitude.

Chap. IV.

Of the signs of Melancholy predominant in the body.

THE redundancy of Melancholick humor in the body, is demonstrated by the following signs.

The Material Causes.

Aliments. Use of too crass and hard aliment, of a terrene substance, such as brown and branny bread, black and thick wine, troubled and muddy water, pulse, old cheese, beefe, hares, pork, marish-fowle, especially salted, or hardened in the smoak, great fishes hard and salt, cabbages, parsnipes, *&c.*
Retentions. The customary evacuation of Melancholy retained spontaneously or artificially by the Hemorroides, the belly, the crooked veins, or the Itch, *&c.*

The Efficient Causes.

Parts. A cold and dry temper of the liver and heart, with the infirmity, or obstruction of the milt, by reason of which it is disabled to attract Melancholick humor, and conveniently to expell it.
Descent. Melancholick Parentage,
Age. Consistency of age, from the forty to sixty.
Region. A County whose aire is of an unequal constitution.
Time. Autumn season.
Watching. Immoderate watching, because it dryes the body, and dissolves native heat.
Passions. A Life agitated with studies, cares, anxieties, and griefe.
Helpfull and hurtfull. They are pleasured by things hot, and cold, as also by temperate; injured by things cold and dry, as vineger.

Effects.

Animal Actions.

Imagination. Fear and sadness which without any manifest cause possesseth men very Melancholick. But they who are Melancholick by a light adustion of the blood; are cunning, wary, prudent, constant, and ingenious.
Atrabilary persons in whom melancholy is adust, are haters and betrayers.
Melancholick persons are difficultly provoked to anger, and difficultly appeased.
A difficult apprehension of things.
Memory. Memory firm by reason of Siccity.
Watching. Much watching, troubled and interrupted sleep.

Dreams:

Dreams. Dreams of black and horrid things; of carcases, sepulchres, devils, *&c.*
Sense. A dulness of the senses, an unconstant, sad, and horrid aspect.
Motion. A slow, heavy, and composed motion.

Vital actions.

Pulse. A slow and hard pulse.

Natural actions.

Hunger. Insatiable voracity by reason of the acidity of melancholy, which excites an appetency, even when it is dejected.
Thirst. Small thirst by reason of abundance of spittle and wheyish humor, being plentiful in melancholick men.
Expulsion. Acid belchings, excited by crudities, abounding in melancholick men.
Accretion. Slow accretion and quick age.
Venery. They are not easily excited to venery, and by the use thereof are very much injured, yet those Melancholicks are more forward to it which are very flatulent; neither is venery so hurtful to them, because they send not forth so much seed, being by flatulency excited to coition.

Passions.

A frequent invasion of Melancholick diseases, such as the Quartane, swelling of the Milt, and hardness; the Leprosie, loathsome scabs, corrupt blood, and the hemorrhoids, *&c.*

Excrements.

Frequent vomiting of Melancholick humor.
By mouth. Customary spitting, and copious ejection of water; whence Melancholicks are termed Spitters.
Belly. The belly for the most part dry, and constipated, and blackish dejections.
Hemorrhoids. Excretion of black blood through the hemorrhoids.
Bladder. Urine thin and white, sometimes thick and pale.

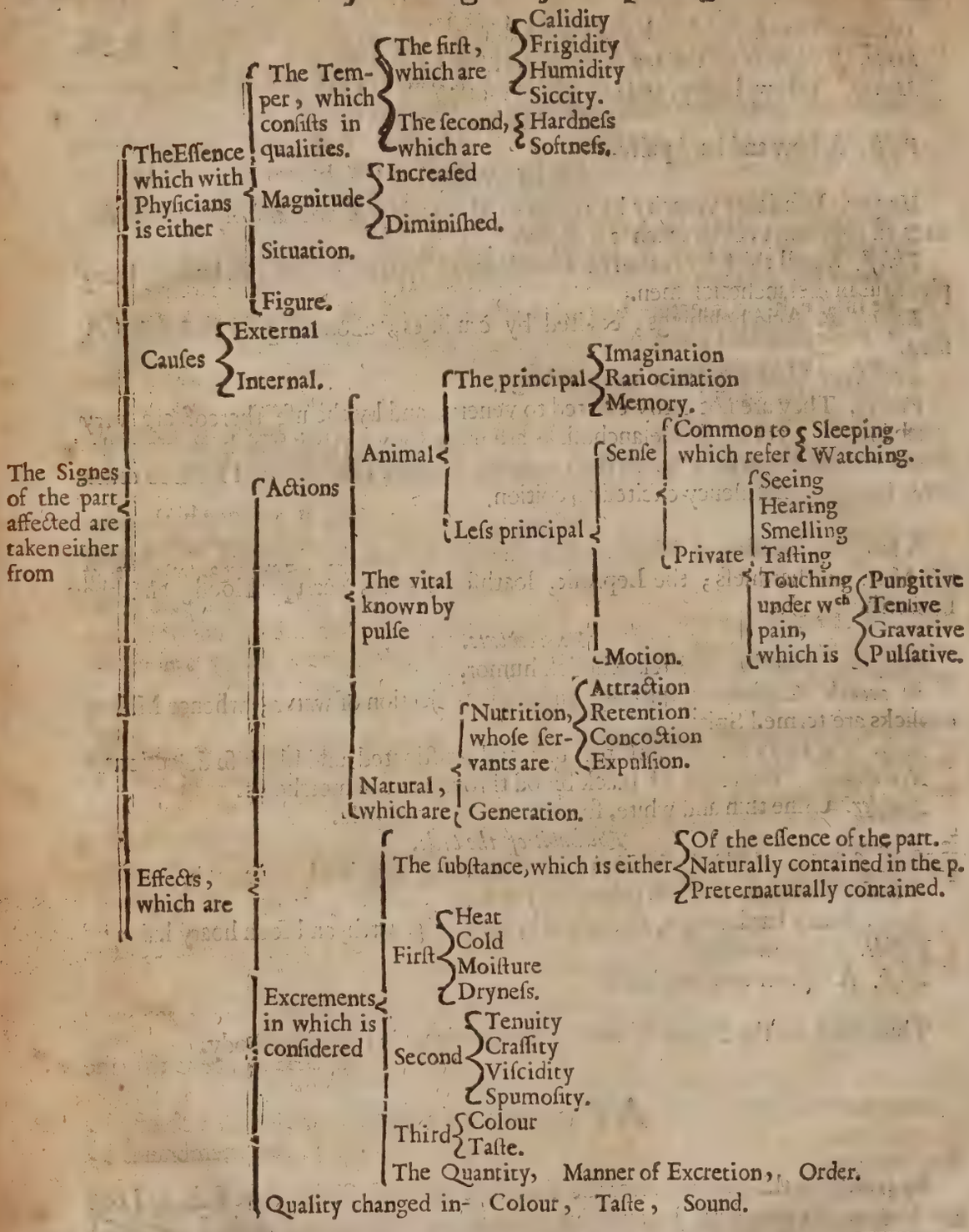
The habit of the body.

Skin, first, second, third. A skin to the touch cold, dry, hard, and rough.
A dark, leaden, or blackish colour of the face.
Hairs. Many hard, rough, thick, black, slow of growth, and soon hoary hairs.
Vessels. Narrow veins.
Flesh. A slender and lean habit.

Thus much of the Signes of humors predominant in the whole body.

A COROLLARY.

By tracing in this method after the footsteps of these Signes, we shall find out the temper of every part, by applying them in the same manner to those parts, and by contemplating chiefly their actions and excrements.



Chap. V. *of the signs of the Affected part.*

HAving duly enquired into the natural, we come now to search out the preternatural disposition of the body. First then we will make a diligent inspection, for the better discovery of the signs of the part affected: Next the *species* of the affection possessing that part, and lastly the causes on which it depends. The signs of the part affected may be derived from three heads, the Essence, the Causes, and the Effects; a Catalogue of which is proposed in the Table marked with the letter, *B*.

Therefore according to that Series the affected part is discovered by.

The essence. First quality. By the Temper of the part; for if we perceive it hot, moist, or dry in excesse, we shall judge it to be preternaturally affected. *Second.*

Second. By hardness and softness, if for instance, in Hypochondriacks we perceive hardness and retinency, we shall judge the parts subjected, the liver, or milt to be obstructed, or inflamed: so too much softness in any part is a sign that the part is affected with some tumid distemper.

Magnitude increased. A preternatural swelling, whether external, perceptible to the sight, or internal, sensible to the touch, such as the tumors of the ventricle, liver, milt, bladder, *&c.*

Diminished. A great consumption and atrophy of the parts.

Situation. The situation of the part, which in this case is very considerable; for if we know by anatomical inspection, what place is proper to every part in our body, we shall easily conjecture by the humor, distemper, or some other sensible affection possessing that place, that that part is diseased.

Figure. The figure mutually distinguisheth the parts situated in the same place, so a tumor in the right Hypochondrium shaped like the Moon, shews that the bunchey part of the liver is affected; but being of a long figure, and more external, it evidenceth to us, that the straight muscles of the abdomen are affected.

External Causes.

External Causes also discover something; for instance, if any one hath taken Cantharides, and conjecture that his bladder is affected, because they have a peculiar vertue to alter the bladder, if any one be affected after converse in the Sun, we judge that his head akes, because the sun doth usually affect that part rather than any of the rest: if the affection be produced by the immoderate use of venery, we say the spiritous substance, and nervous parts are ill, because venery is an enemy to these parts.

Internal causes.

We may number the affections themselves among external causes; as where any one is troubled with a Tertian, this speaks the liver affected; a Quotidian, the ventricle; a Quartan, the milt, because these parts are the randezvouz of their causes.

Observe, That when we in practise search for the part affected, we must not trace it by its essence and causes, but from its actions, excrements, and changed qualities, the signes are first to be deduced, and after from the essence and causes thereof.

The Effects, Actions.

Animal. The læsion of an action shews the part on which it depends to be affected; for instance,

Principal. Deliration, watching, abolition of sense and motion, signifie the brain affected.

Sense private. Læsion of a particular sense, as of sight or hearing, shews that the instrument thereof is affected.

Pain pungitive, tensive. A pungitive pain shews the membrane affected chiefly by sharp and eroding matter, but a tensive pain is often caused in the membranes by flatulency, and in the veins by over-repletion.

Gravative. A gravative pain signifies the *parenchyma* of any of the bowels to be affected, for all *parenchyma's* have a dull sense. So when the stone presses the the substance of the reins, it causes a gravative pain, but when it crowns the head of the ureter, a pungitive. So likewise in the pleurisie, when the matter seiseth on rib-surrounding membrane, it raiseth a pungitive pain; but when it makes a transition to the lungs, the pain is changed to gravative.

Pulsatory. The pulsatory pain shews an artery or some adjacent part to be affected; therefore in all the inflammation of the parts wherein the artery is lodged there is caused a pungitive pain.

Excrements

Excrements.

But those excretions which are conveyed thorough several parts of the body, do usually discover the part affected, in this manner.

Of the essence of the part. A cartilaginous substance expelled by cough, speaks an affection in the *aspera arteria*, or the concavities of the lungs; but a minute part of fungous flesh excreted, shews the lungs themselves to be affected, but a crass substance proceeds from crass parts.

Naturally contained. If meat, or urine, or dregs be expelled by a wound, we know that the ventricle, bladder, or intestines are wounded.

Preternaturally contained. If small stones or sand be excreted by urine, the reins or the bladder are affected. Maw-worms expelled by the mouth or the gut, shew the intestines affected.

Quality of excrements. Air too hot sent forth by expiration, discovers the heart or lungs to be hot; but too cold, shews the heart to be much refrigerated, and next neighbour to death.

First, second, third. The blood too hot, too thin, and too yellow, and issuing as it were by leaps, shews an artery wounded.

Tenuity and colour. Small dejections of the belly, and red like the water in which raw flesh hath been washed, shew an infirmity in the liver.

Spumosity and manner. Spumous excretions expelled by coughing, shew the lungs affected. They whose excrements in the effluxions of their belly are spumous, have a defluxion of flegme out of their head, *Aph.* 30. *Sect.* 7. For flegme flowing from the brain mingled in the intestines with flatulencies is become spumous.

Taste. Acid belching shews the ventricle to be replenished with crudities.

Quantity. If a great quantity of blood be expelled in coughing, the vessels of the lungs are affected, those which are in the *aspera arteria* being too narrow for a plentiful effusion of blood. The excretion of blood in urine, if it be not much, may be conjectured to proceed from the bladder; if much, from the reins, or superiour parts, where it is more copious.

Manner. Excrements rejected by spitting, signifie the mouth; by sneesing, the jaws; by coughing, the lungs, or the *aspera arteria*; by vomiting, the ventricle affected.

Order. If white corruption usher out urine, there is an ulcer in the yard it self; if it issue after urine, there is one in the bladder or reins. In a *dysenteria*, if such corruption or pure blood flow out before the feculency, it is credible that the *intestinum rectum* is rather ulcerated than the rest: but if after it, or much confused with it, it shews the superiour or middle intestines to be affected.

Qualities changed.

The qualities changed do sometimes discover the part affected; for instance, whatever part of the body is possessed by heat or cold, there is a disease. *Aph.* 39. *Sect.* 4.

Colour. A leaden or pale colour thorough the whole body, shews the liver to be refrigerated; an orange colour, the bladder of the gall to be obstructed; blackish, the milt to be so affected. A lasting red in the cheeks, and of a deep grain, shews an inflammation in the lungs.

Taste. A bitter taste in the tongue signifies the ventricle replete with choler. But a salt taste shews the defluxions of salt flegme from the brain.

Sound. A tinckling and hissing of the ears whispers an affection there.

A rumbling in the belly speaks the intestines troubled with flatulency.

CHAP.

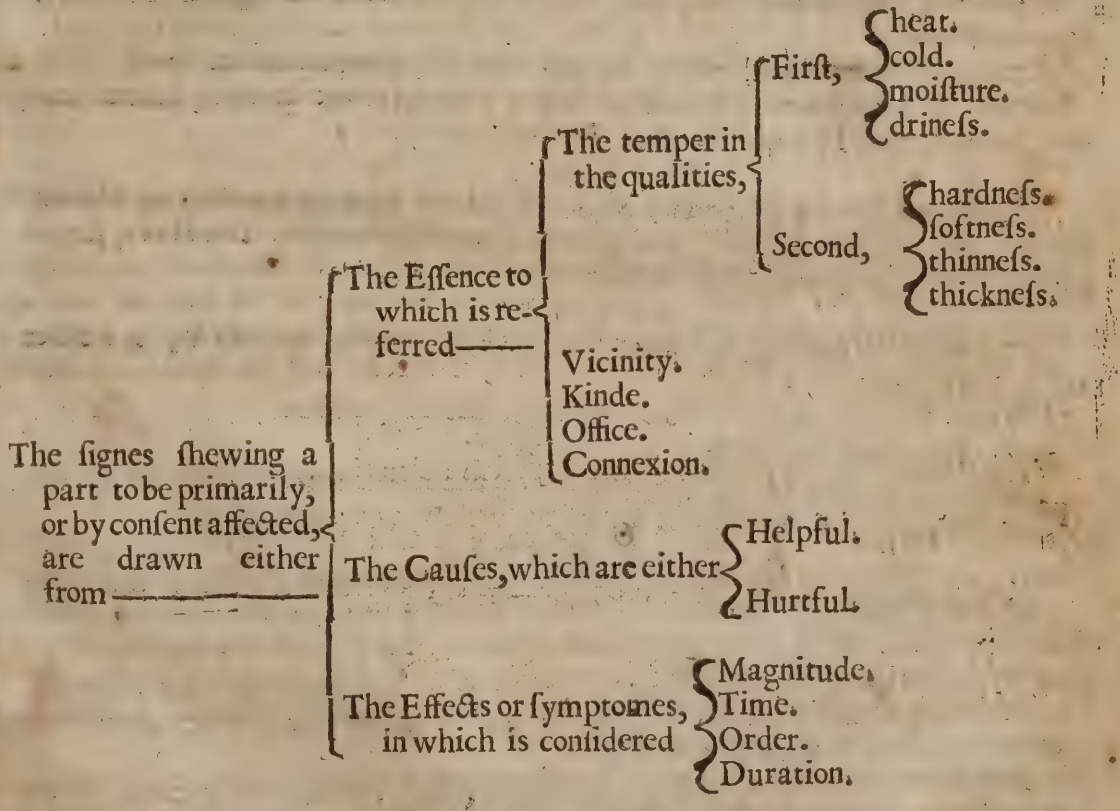
CHAP. VI.

Of the signes of a part primarily diseased, or by consent.

IN all preternatural dispositions it happens for the most part that they confine not themselves to the narrow limits of one part, but overspread many, because that which is at first affected, infects by sympathy those parts that have any commerce with it; where a Physician must be very accurate in distinguishing sympathetical from idiopathetical affections. For the better performance of this, we must derive the signes from the mentioned heads, of which some give occasion onely of a slight conjecture, but some of better assurance; but our united collection of all together is infallible.

The heads therefore of these signes may be taken out of the following table marked with the letter C.

C. *A Table of the signes shewing a part primarily, or by sympathy affected.*



The linkes of this chain of signes will be unlocked by the following theorems illustrated with examples.

The Essence.

First qualities. The hotter parts are more compassionative to a sympathy then colder: because they easily attract the noxious humors and vapors: so the heart and liver do more easily sympathize with the other parts, then the ventricle, bladder, or womb, &c.

Second qualities. Parts thin and soft do more easily sympathize, then thick and hard, because they easily receive the noxious causes, and do not make resistance. So the skin by reason of its rarity easily receives the humors flowing from the inner parts; so the lungs are often attempted by the defluxions of humors from the head.

Vicinity. Neighbouring parts incline to sympathy more then remote ones. So the hand communicates a sense of its evils to the arm, the bones to the adjacent flesh, the ventricle to the liver, the pleura to the lungs, the lungs to the heart, and so round.

Genus. Parts placed under the same genus, and possessing the same nature, are easily excited to a mutual compassion. So the nervous parts sympathize with the nervous, the carnous parts with the carnous.

Office. The whole body sympathizeth with those parts which are publick officers in the body. So when the brain, heart, or liver is affected, the whole body is ill.

Those parts which execute the same office in the body, do mutually sympathize; so the breast with the womb, the bladder with the reins.

Situation. Those parts which are directly superiour or inferiour to others, easily receive their affections. So the head easily receives the vapors ascending from the inferiour parts, and the lungs the humors descending from the head.

Connexion. Parts united by connexion are mutually compassionate. So the affections of the nerves are communicated to the brain; of the arteries, to the heart; of the veins, to the liver; and so on the contrary.

The Causes.

Secondly, from causes helpful and hurtful the signes of a part sympathetically diseased are taken, of which the following theorem is constituted; If two parts being together diseased by helpful or hurtful things approximated to one, one of them is advantaged, or injured; that to which the helpful or hurtful are applied is primarily affected, but the other by consent. So remedies being applied to the ventricle, if the pain of the head cease, or is remitted, the head is affected by sympathy.

The Effects.

The Effects also or symptoms are very efficacious in demonstrating this, as appears by the following theorem.

Magnitude. Of many parts diseased together, that which hath greater symptomes is the primarily affected part, but the rest by consent.

Of many parts together affected, that is first diseased, in which the symptomes first appeared. So when the ventricle is diseased, if a pain of the head afterwards arise, this pain is symptomatical.

In the exacerbation of affections, that part is primarily diseased, in which the exacerbations of the symptomes begin.

Idiopathetical affections are continual without any intermission; but sympathetical admit usually of a respit: so deliration caused by a feaver ordinarily ceaseth upon the mitigation thereof, but being produced by the inflammation of the brain, it continues impatient of any restraint or mitigation.

Here insert the Table folio 131.

CHAP. VII.

Of the signes of the Species of a disease.

THe signes discovering the species of affections, are almost of like learning with the signes of the part affected: but for clearer instruction sake, we will handle them severally, to avoid confusion in that Treatise.

These signes therefore may be taken from three heads, *viz.* from the Essence of the disease it self, from the causes producing it, and the effects thereof, or the symptomes flowing from it.

All which are orderly set forth in the following Table.

To this the Table noted with the Letter *D* is related.

But the series of them is shortly demonstrated in the following theorems.

The Essence.

The Essence of a disease is nothing else but the disease it self; and therefore if our senses will sufficiently discover to us a distemper residing in any part, or some species of an organical disease, or the solution of the continuum, we shall not need any other signes to evidence it.

The Causes.

The causes of Similars. All the Causes signifying the humours predominant in the body, may also hint to us the Species of a disease; for those which produce choler do usually also generate hot and dry diseases; those which produce flegme, cold and moist, and so of the rest; and these in respect of similar diseases may be taken from the former table marked with the Letter *A*.

To which yet the periods of humours shall be added, in this manner.

The humours which are moved every third day, are signes of a *tertian*: Those that are moved every day, of a *quotidian*; those moved every fourth day, of a *quartan* feaver.

Causes of organical and common. But those Causes by which organical, or common diseases are discoverable, are such like.

Aliments and medicaments. Use of aliments and medicines of force to bind the inner passages and cavities, breed a suspicion that the disease was produced in astriction.

Incrassating aliments and medicines do usually generate many obstructions.

Aliments and medicines very detergent do usually produce asperities in the tongue, œsophagus, aspera arteria, ventricle, and intestines.

Aliments fat and oleaginous generate levity in the intestines, and Lienteria's.

Medicines sharp and eroding erode and exulcerate the internal parts.

Disposition of the part. The Liver and Milt are oftentimes troubled with obstructions; if therefore these parts be affected, we shall shrewdly suspect obstructions.

The *Aspera artèria* is often exasperated or levigated by fluxions; therefore if that be affected, we may conjecture of asperity or levity. Worms are commonly produced in the intestines, therefore upon an affection of the intestines we may call them in question.

Temper of the parts. They that have a ventricle cold and a liver hot, are subject to obstructions, because the liver attracts crude aliments, by which obstructions are generated.

They who have a cold ventricle and hot reines, do usually harbour stones in their reines, because flegme generated in a cold ventricle, is by the heat of the reines indurated, and converted into a stone.

Descent. The issue of lienous, nephritical and podagrical parents are inclined to such diseases.

Exercise presently after a meal causeth obstructions, because it throws down the aliments from the ventricle, before they be concocted.

Venery. Immoderate Venery causeth a calculous disposition, because it debilitates the reines.

Effects. *Animal Actions.*

A deliration with rage speaks an hot distemper of the brain.

Principal. A deliration with fear or sadness, and fatuity, shews a cold distemper of the brain.

Sleep. Immoderate sleep signifies a cold and moist distemper of the brain.

Watching. Immoderate watchings signifie an hot and dry distemper of the brain.

Sense and motion. A total abolition of sense and motion, such as appears in an Apoplexy, shews a total obstruction of the ventricles of the brain.

The Motion of all the parts depraved, such as is seen in an Epilepsie, shewes the ventricles of the brain half obstructed.

The privation of motion in any part, signifies an obstruction, resolution, or incision of the nerves retaining to that part.

Pain. A pulsatory pain is a signe of inflammation in the part aggrieved.

A stupid pain shews a cold distemper.

A sharp and eroding pain discovers exulceration.

Vital Actions.

A great and frequent pulse shews an hot distemper; a small and rare one, a cold distemper.

Natural Actions.

Attraction. A dejected appetency, and great thirst, shews a hot distemper.

A great appetency, and small thirst, argues a cold distemper.

Expulsion. Nidorous belching shews a hot distemper; but acid, a cold.

Frequent vomiting and excretion of feculencies hindred, shews an obstruction lurking in the intestines.

Generation. The appetite to coition being lost, signifies a cold distemper.

A vehement desire of coition, with a perpetual and painful erection, shews an inflammatory affection.

Excrements.

By the mouth. Bloud copiously expelled by coughing through the mouth, shews a ruption of the vessel, but a small quantity permixt with purulent matter, an exulceration.

Belly. Fragments ejected through the belly shew exulceration in the intestines.

Bladder. Urine having red and sandy sediments, is a sign of the stone, or of an hot distemper of the reines scorching the humours.

Heart. Small sweats and frequent interludes of shaking signifie an *Empyema*, 10 *Coat.* 1. By the acrimony of the corruption the internal parts are vellicated, which is the cause of trembling; but the small sweats proceed from the debilitated faculty.

Substance. Aliments excreted in the same manner as they are taken, shew a Lienteria; drink if it be expelled unchanged by urine, signifies a Diabete.

Yellow Choler excreted in the beginning of a paroxysme, signifies a Tertian Feaver.

Manner. Blood copiously flowing through the nostrils in the beginning of a Feaver, signifies a synochical one.

Bloud flowing abundantly from any part signifies a ruption, or anastomosis of the veines; but softly sweating out, a diapedesis.

Quality changed.

Redness in a deep grain in any part, speaks a phlegmatous inflammation; so redness

ness in the cheeks signifies a peripneumony.

A Yellow colour shews an Erisipelatous affection; so in an exquisite pleurisie the eyes do often appear as it were delineated in yellow colours; so the Jaundise doth not seldome succeed bilious Feavers.

A yellow colour of the whole body without a Feaver, shews an obstruction in the bladder of the gall.

The skin of the whole body preternaturally drawn in a blackish colour, signifies an obstruction in the milt.

CHAP. VIII.

Of the signes of a great, and a small disease.

A Physician who undertakes the cures of diseases, is not sufficiently furnished for it by the bare knowledge of their essential differences by their proper signes; for the accidental differences also are to be diligently inquired after, that we may pass a certain judgement of them. We will therefore propose signes of the chiefest of them; *viz.* of those which are of near necessity to the practise of the Art; in respect of which every disease is called great or small, gentle or malignant, acute or slow, and so forth. That disease is termed great, which is very intense, and oppresseth our body with much violence. The signes of which are taken from the three heads aforesaid; for we judge that disease great, which being great in its Essence, was produced by great and intense causes, and hath great and vehement symptomes; all which for clearer instruction are in order to be handled, as is described in the following Table noted with the Letter *E*.

E. A Table of the signes shewing a disease to be great or small.

The signes of a great or small disease are taken either from—
- The Essence.
- The causes
  - Efficient
    - External.
    - Internal.
    - Helpfull and hurtful.
  - Material or subject.
- Effects or symptomes, which are either—
  - Actions
    - Animal.
    - Vital.
    - Natural.
  - Excrements.
  - Qualities changed.

That we may therefore in proposing the signes of a great disease, conform to this Table, we shall institute the following theorems.

The Essence.

Great distempers, or inflammations, great tumors, great obstructions, great wounds or ulcers extended to the full dimensions, long, broad, and deep, shew great diseases.

The Causes.

External. Whatsoever external Causes are very prevalent in affecting our body, do usually produce and discover great diseases. So long and violent exercise used in a very hot air, doth excite a great Feaver.

Internal. Those humours which are nested in our body, and which are the ordinary causes of most diseases, if they extremely erre in quantity or quality, they cause and foreshew great diseases. So the bloud copiously abounding, or very hot, either

either choler copious, sharp, or putrified; are signes of a great disease.

Helpful and hurtful. Those diseases, to which there are none or few remedies profitably, many noxiously applied, are accounted great.

Those diseases which outrage the dignity of the principal or the publickly officious parts, are in respect of them judged great, if they be but accompanied with any other signe of magnitude. So a wound, though of it self inconsiderable, if it be inflicted on the Heart, Liver, Lungs, or other the like parts, is counted great in respect of the part affected, as also because it produceth great symptomes.

Effects.

Animal Actions.

Whatsoever disease introduceth a deliration, profound sleeping, immoderate watching, privation of sense or motion, or a very vehement pain, discovers a great disease.

Vital Actions.

Whenever we perceive in any sick person a great, frequent, and difficult respiration; a great, frequent, or else very small pulse, we may safely pronounce him troubled with a great disease.

Natural Actions.

A small appetite, or thirst; or on the contrary, an insatiable appetite and ever quaffing thirst; inconcoction; or a long flux of the belly, and suppression of urine, or a tedious and copious profusion thereof, signifie a great disease.

Excrements.

A superfluous quantity of excrements, or a total suppression of them, or a bad colour, or a most fetid smell, or substance very remote from their natural one, are signes of a great disease.

Qualities changed.

A Colour of the body very red, yellow, or pale; a tast bitter in the tongue, the colour thereof black, and much drineſs, declare a great disease.

A Corollary.

By these signes before mentioned we may easily discern what diseases they are which deserve the name of small diseases, *viz.* all those in which the mentioned signes are not found.

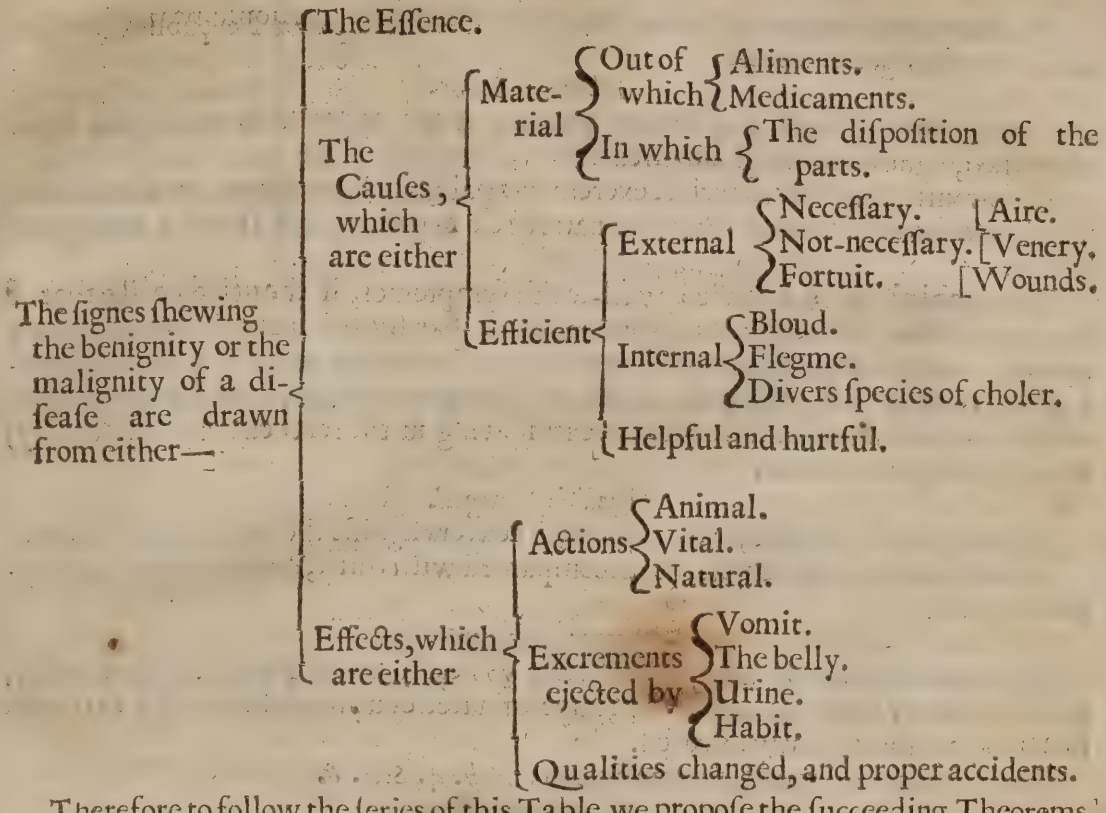
CHAP. IX.

Of the signes of a gentle, and malignant disease.

WE term those malignant diseases, which are attended by some malignant and venomous quality; and their signes may be derived from the same heads.

All which shall be in the following Table mark't with the Letter *F* orderly proposed.

F. Of the signes of a gentle and malignant disease.



Therefore to follow the series of this Table, we propose the succeeding Theorems.

The Essence.

Some diseases are naturally alwaies malignant, as a Cancer, Leprosie, the Venereal disease, a Carbuncle, the Plague; others alwaies gentle unless they light upon a pestilent constitution, as a Tertian ephemeral simple synochical Feaver, and the like.

The material causes.

Usual feeding on meats of a bad juyce, or corrupt; drinking of marish, muddy, or corrupt waters, do frequently produce malignant diseases.

Medicines venomous, and of a deleterious quality, generate malignant diseases.

In bodies of bad juyce and ill affected, malignant diseases are most commonly generated.

The efficient causes.

A pestilent and corrupt aire doth usually produce malignant diseases: Coition with an impure harlot, whose sole issue is a malignant disease.

Wounds inflicted with intoxicated swords, or the bitings of venomous creatures, do produce and shew venomous affections.

Bloud and flegme produce gentle diseases, but choler black, porraceous, erugi-nous, and sometimes yellow, causeth malignant diseases.

Whatever sick person is not sustained by healthful causes, whether proceeding from nature, as spontaneous vacuations; or from art, by due administrations of remedies, but is advantaged by these applications onely which are of a preservative virtue against poyson, and injured by almost all the rest; that person is molested with a malignant disease.

THE EFFECTS.

Animal actions.

A deliration and great perturbation of the mind, watching, disturbance, with-

without a vehement Feaver, are signes of a malignant disease.

Vital actions.

A sudden debilitation of the pulses, and the strength, a Deliquium and syncope, discover a malignant disease.

Natural actions.

Great thirst without a vehement Feaver, or the appetite to meat and drink abolished, signifies a malignant disease.

If by vomit, the belly, or urine, exerements pale, black, eruginous, or tainted with some alien quality remote from the natural be expelled, this shews a malignant disease.

In a notable Feaver, attended by ill-look't symptomes, if the urine be like that of healthy persons, it shews a malignant disease. For by such urine it doth evidently appear, that the disease scornes to own for a parent vulgar putridity, but is generated by a more intense, profound, occult, or malignant quality which appears not with the urine. Small and frequent sweats flowing in the forehead and neck onely, shew a malignant disease.

Qualities changed.

A pale colour in the face, or other parts, in Feavers signifie the malignity of them.

A black colour in the tongue, not accompanied with thirst, demonstrates a malignant disease.

Proper Accidents.

Those who in Feavers are infested with Wheals, divers Pimples, Carbuncles, Botches in their arm-pits and groins, impostumated ebullitions behind the ears, and such like, are malignantly diseased.

Ulcers smooth all round, are malignant. *Aph.* 4. *Sect.* 6.

A corollary.

Those diseases are accounted gentle, in which the foresaid signes of malignity are not discoverable.

CHAP. X.

Of the Signes of an acute, and Chronical disease.

DIseases of short continuance and swift motion, which also have magnitude accompanying brevity, are called acute and vehement, to which the Physicians commonly oppose Chronical, though they stand not in diametral contrariety to them; for Chronical or long diseases are so called, onely for that they are of continuance, though sometimes also they are great; such as the palsy, the Dropsie, and the like; to which those are truly and properly opposed, which are termed short simply, as an Ephemeral Feaver.

The signes therfore of acute diseases shall be drawn from the precedent heads, according to the order of the following Table mark't with the Letter *G*.

The

G. The signes shewing an acute, or Chronical disease, are taken either from
- The Essence, or species of the disease.
- The internal causes, or humours producing the disease.
- The Effects or symptomes, which are either—
  - Actions: Animal. Vital. Natural.
  - Excrements ejected by: The Belly. The Bladder.
  - Qualities changed.

But the series of this Table will more evidently appear by the following Theorems.

The Essence.

All the inflammations of the interiour parts, burning and continual Feavers, are in their proper nature alwaies acute. So when we see any one troubled with the Phrensie, Pleurisie, or such like affection, we say they are sick of an acute disease.

The Causes.

Whatever diseases are produced by blood, yellow, or black choler, are usually acute; and so the knowledge of the humour effecting the disease easily conducts us to such skil, that we know whether it fall into the number of the acute ones.

THE EFFECTS.

Animal Actions.

A deliration, abolition of sence and motion, or any part afflicted with very vehement pain, shew an acute disease.

Natural Actions.

A great thirst, large fluxes of the belly, or total suppression of the evacuations of the belly and urine, signifie an acute disease.

Excrements.

The excrements of the belly very yellow, porraceous, eruginous, pale, or black, discover an acute disease.

Red, green, or eruginous urines shew the like.

Qualities changed.

The countenance of the sick person engrained in red, heat overspread in the whole body, a bitter taste in, and blackness discolouring the tongue, signifie an acute disease.

A Corollary.

The signes of the differences of acute diseases are described *chap.* 4. *Sect.* 3. of prognostick signes.

But Chronical diseases are easily known by the absence of the mentioned signes, and presence of the contrary, so that repetition of them here will be useless.

CHAP. XI.

Of the signes of morbifick causes; and first, Of the signes of preternatural choler.

Diseases are most generally the spawn of various humours unconformable to nature: but those humours do usually breed diseases, which are predominant in the whole, or in any part of the body; and so if we do accurately know this factious humor, we shall easily arrive to the cause of the disease. We must therefore recall the signes of these domineering humors from the first Chapters of this Section; and because the humors there fall under our consideration, as they are constituted in their natural state, we therefore proposed onely four first differences of humors: but now some others offer themselves, which are wholly preternatural; these we shall in short propose, neither will it be impertinent to enquire after some other causes of diseases produced by humors, lest this Treatise should be any way defective.

To begin therefore with choler; we termed that natural, which was died with yellow, or pale, though it be often disobedient to nature, and produceth many diseases: yet it always presents the same signes, if to that which is preternatural, and somewhat putredinous, we adde this onely, *viz.* that it is moved every third day, as manifestly appears in the paroxysmes of a Tertian Feaver.

But there are other species of choler which are perpetually preternatural, and as often as they visit the body, they usually produce diseases: and they are vitelline, porraceous, eruginous, glasteous, and black.

The vitelline owes its production to the yellow, with the midwifery of preternatural heat, which by dissipating the thinner parts incrassates that, so that in consistence and colour it dissembles the yolk of an egge.

This is not discovered by any other signes then the yellow, except onely that the colour of the excrements do dissemble that yolk colour, or that that yolk matter is in diseases expelled by vomit or seces.

Porraceous, eruginous, and glasteous are generated two ways, one by depraved aliments, and of a vicious juyce, such are, Onyons, Leeks, Watercresses, and the like: The other by vitelline choler parched by vehement heat; by virtue of which it is painted in various colours, according to the various degrees of exustion; for the porraceous is generated by less adustion, the eruginous by greater, the glasteous by more intense; for as the colour more emulates black, it argues the greater adustion.

The signes therefore of these species of choler will be all those which discover yellow choler, and much more intense, and besides them these two chiefly; *viz.* long use of the aforementioned bad aliments, and excretions infected with those colours.

Black choler is produced from the foregoing species of choler, by a more scorching exustion: It is known by the mentioned causes parching and burning the humors, and especially by the effects. For when it is expelled in excretion, it is known by its black colour, and insufferable acrimony; it exulcerates the parts by which it passes, and being diffused on the earth, it ferments it.

Some accidents also are fathered upon it as the issues thereof, as cancrous tumors, malignant scabs, noisome ulcers, and the like; black choler is also sometimes

times the product of putrified melancholy, but it is somewhat more mild then the former, producing the same, but less vehement symptomes.

A Corollary.

Blood varies into no species but when it deviates from a natural condition, and is too much altered by heat, and so changed into divers species of melancholy; so also scorched or putrified melancholy degenerates into black choler; all which need no further scrutiny.

CHAP. XII.

Of the signes of preternatural Flegme.

NAtural flegme is usually called sweet, or insipid, yet from this exceeding in quantity, motion, or any other manner transgressing the bounds chalk't out by nature, many affections are generated.

Some of the species of it are perpetually preternatural, and those are salt, vitreous, gypseous.

Salt flegme is produced two ways according to *Galen* in his *book of the differences of Feavers, Chap. 6.* one out of putrefaction, the other by the salt serous humidity. But it is known by these signes, *viz.* by long use of salt diet, great thirst, a Dysenteria, with pituitous excrements, noisom scabs, much itching, and chiefly by a salt taste caused by a Catarrhe flowing into the mouth.

But the vitreous flegme is onely gathered in the intestines, and by reason of its intense coldness it is accounted very biting, so that it often produceth colick pains, which are by their mark distinguished from them which are produced by flatulencies, *viz.* because vitreous flegme generates fixt pain, and perforating like an awgre; but wandring and unsetled pains are generated by flatulencies.

Gypseous, lastly, is that flegme which is indurated almost to stone, and appears in the gravel, and nodosities of gouty persons, or is also sometimes expelled by main force from the lungs like hail.

CHAP. XIII.

Of the signes of Serum abounding.

THe serous humor produceth many, and these not contemptible affections; such as distillations into divers parts, dropsies, and the like; therefore we will in short propose the signes thereof, drawn from two heads, *viz.* the causes and effects, according to the following Table mark't with the Leter *H.*

H.

- The signes of the serous humor abounding, in the body are taken from—
  - The Causes, which are either—
    - Material
      - Assumed
        - Meat.
        - Drink.
      - Excreted and retained.
    - Efficient—
      - Natural
        - The various disposition of parents.
      - Preternatural
        - Various diseases.
  - The Effects, which are either
    - Excrements.
    - Proper accidents.

By conforming to this order, the serous humor abounding in the body will be discovered by the following Theorems.

The material Causes.

Frequent use of moist diet, as of summer fruits, and herbs, causeth a full stream of watry humors, and breeds a suspicion that they are like a torrent in the body.

Large and frequent tipling of water, is abundantly advantageous for the copious generation of this humor.

The usual evacuation of urine suppressed, or intermission of sweats, signifies that this humor is copiously cumulated in the body.

The efficient causes.

A cold and moist temper of the ventricle and liver, doth produce serous humors plentifully.

Those who are by temper melancholick abound with this humor.

The obstructions of the liver, milt, and reines, causeth abundance of this humor in the body, because it hath no free effluxion, the customary passages being blockt up.

THE EFFECTS.

Excrements.

Frequent sweats, and irrigations of the whole body, signify plenty of this humor.

They who abound with it do expel much water by spittle.

They whose blood let forth by phlebotomy, is converted for the most part into this humor, may assert by the demonstration of this signe that the whole mass of blood is infected,

Accidents.

They who being lean have a tumid abdomen, are well furnished with this serous humor.

CHAP.

CHAP. XIV.

Of the signes of flatulency.

FLatulencies are copiously generated from crude and crass matter passed over by weak heat. The signes of them are drawn from two heads, *viz.* the causes and effects; the series of which the following Table will declare noted with the Letter *I.*

I.

- The signes shewing flatulencies are taken either from
  - The Causes
    - External [Aliments.
    - Internal [Temper of body.
  - Effects which are either
    - Excrements.
    - Qualities.
    - Actions animal hurt, consisting either in—
      - Sence
        - Common [Dreams.
        - Private, in respect of
          - Touching.
          - Hearing.
      - Motion depraved.

By observing the series of this Table, we may propose these Theorems.

Chesnuts, Turneps, Rapes, Beans, Pease, and almost all sorts of pulse, produce copious flatulencies.

They whose milt is obstructed, or who are of a melancholick temper, do very much abound with flatulencies.

Dreams of light things, and of quick motion, signifie flatulencies to abound in the body.

A tensive and moveable pain, without any sense of gravity, is excited by wind.

The ears are turned to a tinckling by the eruption of flatulencies through them.

A palpitation and concussion of the parts, and oscitation and retching, shew plenty of wind.

Belching, and the alarum of the belly the engineer of flatulencies, discovers them to be in the body.

A croking and rumbling of the belly, as also the sound caused by percussion of a swelling abdomen, demonstrates plenty of flatulencies.

CHAP. XV.

Of the signes of the times of diseases.

THe times of diseases are by *Galen* termed sometimes the parts of diseases, sometimes the ages of them, sometimes the motions of the morbifick cause.

Hence it appears that the instruction of them must accompany the diagnosticks of preternatural things; which is easily spun out of the mentioned heads, as by the succeeding Theorems shall appear.

Those diseases whose nature is intelligible by sense, their times also are easily distin-

distinguished by it. So we know a Feaver to be beginning, when we perceive the heat diffused through the whole body to run in the same course it begun in, without any remarkable increase to higher inflammations. But to be then in augmentation, when the heat doth evidently grow more intense. And we know it to be then in station, when the heat remits not any of that vehemency which was left at its highest degree; and lastly to decline, when the hot distemper is in a way of mitigation.

In the beginnings of diseases the injury of the actions is less considerable; in the augmentation, worse; in the station worst of all, and continues long so; but lastly in declination they are reduced to a betterment.

Excrements wholly crude, having not any appearance of coction, signifie a beginning disease: but when we see some glimmerings of coction in them, the disease hastens to an increase; and when we find very great signes of coction, the disease is stated.

And lastly, absolute concoction, and melioration of the excrements, signifie a declination.

THE THIRD SECTION OF THE SEMEIOTICAL PART OF THE PROGNOSTICAL *SIGNES.*

CHAP. I.

Of the signes discovering when a disease will be long or short.

THE brevity and longitude of diseases are evidenced by many signes, which in the same method are derived from the same heads; as appears in the succeding Table noted with the Letter *K*.

K. The

K. The signes of the longitude and brevity of a disease, are taken either from

- The Essence, to which are referred the accessions of diseases, in which is considered —
  - Magnitude.
  - Motion.
  - Time.
  - Manner of the solution thereof.
- The Causes
  - Efficient, which are either
    - Not natural
      - Countrey.
      - Season of the year.
      - The condition of life past.
    - Preternatural, or various humors, in which is considered —
      - Quality.
      - Quantity.
  - Material or subject in which is considered —
    - Age.
    - Temper.
    - Various disposition of parts.
- The effects, which are either
  - Actions
    - Concoctions and in them —
      - The time of their appearance.
      - Increase.
      - Duration.
    - Excrements, in which are considered
      - Qualities
        - First
          - Calidity.
          - Frigidity.
        - Second
          - Tenuity.
          - Crassity.
        - Third
          - Colour.
          - Smell.
          - Taste.
      - The quantity of excretion.
      - The manner of excretion.
      - The place by which excretion is made, in which is considered —
        - Aptitude.
        - Rectitude.
        - Latitude.
      - The time in which it is done.
      - The Contents of them.
    - The qualities of the body, which are either —
      - First,
        - Calidity.
        - Frigidity.
      - Second,
        - Tenuity.
        - Crassity.
      - Third, [Colour.

In-

In conformity to this Table, we shall constitute the following Theorems.

The Essence.

Hot diseases are always of less continuance, if they have not contracted an habit; but cold ones longer.

In diseases which are supplied by accessions, the longer they are, they foretel the permanence of the disease, the shorter they are, the shortness thereof.

Those accessions of diseases which are soon perfected, signifie the speedy expiration of the disease, according to Galen, Book 3. of Crises, chap. 4. *because that vehement motion is the motion of an approching Crisis.*

Those accessions which like abortives come before their time an hour or two, signifie that the disease prepares for a speedy departure.

For this anticipation is caused by the tenuity and mobility of the matter; yet we must note, that this anticipation, that it may signifie the brevity of a disease, must not be orderly, *viz.* to anticipate every day in the same space of time, *viz.* one or two hours, for this order signifies the stability of the disease, and the obstinacy of the morbifick matter. But the time of anticipations must be unequal, that by it the infirmity of the matter may appear, and that it is no uneasie task for nature to be victorious.

Accessions returning slowly are signes of the diuturnity of the disease.

For hence it is evident that the morbifick matter is incrassated to a contumacy: But yet this is sometimes caused by the diminution of the same matter, when it is by degrees consumed; which is easily perceptible by the remission of symptomes, and the less troublesom toleration of the sick person.

Of those who have accessions, what ever hour the Feaver departs, if it on the next day return on the same, difficult iudgement will be passed. Aph. 30. Sect. 4.

For when paroxysmes do constantly observe the same returns, they signifie the firmness and stability of the matter, that it cannot be mastered but by long conflict: because order in all things denotes a fixtness, and power of causes, and so a difficult solution. So we are instructed by daily experience, that the paroxysmes of quartan Feavers do most commonly return on the same hours, for that they are established upon the foundation of a firm and strong cause, whence also proceeds their contumacy and diuturnity.

A paroxysme also implies a difficulty, not onely if it always happen the same hour, but also if it anticipate or retard on even hours continually, and in the same proportion.

As if a paroxysme happen this day at one, the next at two, the third day at three of the clock: for in these there is order no less then in the precedent, which order perpetually depends upon the fixtness and stubbornness of the matter.

Those diseases whose exacerbations return every third day, are shorter then those which return every day; but those are the longest which have recourse every fourth day.

For a tertian Feaver, because generated by choler, *viz.* thinner humor, is more easily dissolved. But a quotidian is generated by flegme, which in respect of its crassity and stubbornness is related as a medium to choler and melancholy. But though double tertians have daily paroxysmes, yet by reason of the copiousness of the matter, which much more abounds in them then in a simple tertian, they are usually longer.

Those diseases which have their paroxysmes about noone, are shorter then those which have them in the morning.

The longest of all are those which have their exacerbations about evening, or in the night.

For the four humors use to be moved in the four parts of the day, *viz.* the blood in the morning, the choler at noon, the melancholy about evening, the flegme in the

the night. Whereas therefore the hour of exacerbation in continual Feavers, shews the predominancy of the humor, the same also may denote to us the longitude, or brevity of the disease, which depends upon the nature of the humor.

Those diseases whose solution is caused by excretion, are sooner finished then when it is caused by abscession.

Because the thin humors are evacuated by excretion, the thick by abscession.

The Causes.

The Countrey, season of the year, antecedent condition of life, all hot, shew diseases to be short; all cold, long.

Diseases caused by blood, yellow choler, and thin and exiguous humor, are shorter; but those produced by melancholy, black choler, or any thick and copious humor, are longer.

In youth diseases are most commonly short, in old age long, in others indifferent.

Those who are of an hot temper are affected with short, those of a cold temper with long diseases

In well-affected bodies sickness is shorter, in ill-affected longer.

In the harder and thicker parts diseases are more lasting, as also in the softer and looser parts, but shorter in those which are of an indifferent consistency.

EFFECTS.

Actions.

Much Læsion of Actions signifies the longitude of a disease.

Because that such a wide recess from the natural state cannot be reconciled but in a long time.

Excrements.

As much time as intercedes from the beginning of the disease to the manifest signes of coction, so much time also is spent in the total solution of the disease.

According to the legitimate constitution of diseases, the beginning of a disease is equal to the two subsequent times, but the beginning of augmentation is computed from that day in which the signes of concoction manifestly begin to exert themselves. Of this event many examples are found in *Hippocrates*, as the 1. *Epid. chap.* 3. *ægr.* 3. where he saith that one was judged on the seventeenth day, who had manifest signes of coction on the ninth, and *book* 1. *chap.* 3. The wife of *Epicrates* was judged on the twenty seventh, having these manifest signes of coction on the fourteenth; and *Cleanactides* on the fortieth had manifest signes of coction, and was freed on the eighteenth day, and 3. *Epid.* 3. *Anaxion* began on the seventeenth to void his concoctions, and on the thirty fourth day was freed from a Feaver, and Pleurisie. And *Epiphanius Ferdinandes* reports that many examples of this thing fell within the compass of his experience, *hist.* 86.

In diseases in which coctions appear in the excrements from the beginning, they are signes of brevity, but when they are slow in coming forth, they signifie longitude.

The coctions of excrements appearing on the indicative day, denote the brevity of the disease, but appearing on any other day, they shew the longitude.

Those diseases in which the excrements suffer some grand change, and much increase of coction, are accounted shorter; but long, if they be small, and made by degrees.

Diseases in which coctions continue long, are quickly finished, but slowly, if after appearance they with draw again.

Hot excrements sent from any part signify the brevity of the disease, but cold ones the longitude thereof.

Thin excrements signify the brevity, crass the longitude of a desease: yet if they become crass after coction, they are signes of brevity.

But note that this holds not alwaies, because in some diseases the tenuity of

excrements is more laudable, but in others the craſſity ſo.

Thin and diſcoloured urine ſignifies the longitude of a diſeaſe.

Urine very thin, and having none, or very thin ſediments, amd changing ſometimes into better, ſometimes into worſe, ſignifies the diuturnity of a diſeaſe.

Excrements of one colour denote the ſhortneſs, but of divers colours, the continuance of a diſeaſe. For they ſhew variety of diſpoſitions, which are with more difficulty conquerable.

A very noyſome ſtinke proceeding from the excrements ſignifies the diuturnity of the diſeaſe, becauſe they fall off from the natural ſtate.

In diſtillations a very ſalt humor flowing from the head, ſhews a long diſtillation, becauſe that proceeds from a very grievous diſtemper.

Excrements few, and expelled by degrees, diſcover the longitude of a diſeaſe; many, and copiouſly ſent forth, the brevity thereof.

Excretions which are ſtopped in their beginning, as when ſweats retreat, they are meſſengers if not of death, yet at leaſt of a long continuing diſeaſe.

Excrements expelled with a great noiſe, ſignify the longitude of the diſeaſe.

So ſpittle excluded by a troubleſome cough, becauſe it argues much difficulty, ſpeakes longitude.

All thoſe diſeaſes whoſe ſolution is by abſceſſion, are longer; by excretion, ſhorter.

Excretions driven out through convenient places, and fit for the expurgation of the parts, cauſe a ſhort diſeaſe.

So the head is purged by the noſtrils and palate; the inferiour parts of the belly by the guts and bladder.

Parts are more eaſily purged by direct paſſages, and effect a ſhorter diſeaſe.

So the inflammation of the liver is eaſily allayed by iſſuing of blood through the right noſtril, but not through the left.

Excretions made through larger paſſages ſooner diſpatch a diſeaſe then thoſe made through narrower.

So the ſolution of the affections of the head is more ſpeedily cauſed by the palate and noſtrils, then by the ears. So feavers are ſooner ended by help of the belly then of the bladder.

Excretions in acute diſeaſes on the critical day ſhew the ſhortneſs of a diſeaſe; but on another day, the continuance thereof.

Bubbles inflated on the ſurface of urine, ſignify a renal, and long diſeaſe.

Aph. 34. *ſect.* 7.

For bubbles, as *Galen in his comm.* averrs, are cauſed when the humor is diſtended by a flatuous ſpirit: and this contingency is more frequent when the humor is any thing tenacious; for then the bubbles themſelves are firme, and difficultly ſoluble. When therefore flatuous ſpirits are conveyed forth with the urine, it ſhewes the reines to be troubled with a cold affection, which muſters up the flatuous ſpirits, and ſo cauſes a long ſickneſs. For all cold things are difficultly ſoluble, and hardly admit of coction, and ſo are of long continuance.

When the ſediments of the urine of men feaveriſh reſemble courſe meal, they portend a long ſickneſs. Aph. 31. *ſect.* 7.

For they ſignify that a feaver is cauſed by thick humors, which require much time for concoction and edomation. So in *Hipp.* 3 *Epid. Sect.* 2. *ægr.* 3. one who lay ſick in *Dealces* garden of a great feaver, voided thin urine, having a ſmall enæorema like courſe meal, and was judged the fortieth day. But this opinion is to be taken in this ſenſe, that ſuch urine ſhonld ſignify the longitude of the diſeaſe, if it be probable that the ſick perſon may eſcape it: for it is ſometimes deadly, and by it many are ſnacht away with death, before any longer protraction of ſickneſs, as may be ſeen in *Hipp.* book. 1. *Epid. ægr.* 2. where *Silenus* who dwelled in *Platamon*,

and

was neighbour to the sons of *Euacles*, by weariness, and drinking, and unseasonable exercitations, was taken with a great feaver, on the tenth day he expelled by urine copiously something thick, separating, subsiding, farinacious matter; his extreme parts were cold; on the eleventh day he dyed. We must therefore affirm with *Galen*, that such like sediment signifies either death, or continuance of the disease.

First qualities. *when mutations run through the whole body, if the body be refrigerated, or again heated; or if one heat spring out of another, this signifies the duration of a disease. Aph.* 40. *Sect.* 4.

For by these vicissitudes it appears that various humors abound in the body, which cause various dispositions. But nature wants much time to unburden it self of many dispositions.

Cold sweats signify with an acute feaver death, with a more gentle one longitude of the disease. Aph. 37. *Sect.* 4.

For cold sweats, as *Galen in his comm.* affirmes, proceed from some cold part, and cold humor; but they properly coming from the skin it self, it is consequent, that the skin should in cold sweats be refrigerated, and contain in it, or the parts subjected to it, cold humors. But when putrefaction of acute feavrs resides in the bigger vessels, it sometimes happens that a great inflammation being in the inner parts, it preyes upon the native heat seated in the skin and the parts under it: and so when those are together with the humors in them contained, refrigerated, it is not to be admired if they infrigidate the sweats conveyed through them, though caused by very frequent humors imprisoned within. Cold sweat then in acute feavers is a signe of death, because it shewes that the native heat is too weake to lord it over these cold humors, and must therefore submit to their pleasure. But in more gentle feavers it signifies longitude, because by reason of the exiguity thereof, it doth not so enervate the strength, as to lay it naked to the invasion of death; yet plenty of cold humors cannot under a long space be concocted and subdued.

The second. *A very great extenuation of the whole body signifies a long disease.*

If a person troubled with no inconsiderable feaver, remaines in the same plight of body, without extenuation, this denotes a long disease. Aph. 28. *Sect.* 2.

For permanence and non-extenuation depends upon the density of the skin and crassenes of the humors, and it therefore signifies a long disease.

The body very pale, or of an orange colour, denotes duration of a disease.

For this colour shewes a wide recess from natural state, which cannot be retrograde but in a long time.

CHAP. II.

Of the signes of a disease tending to health, or death.

THat is called an healthy disease which endangers not the life; but that a deadly one, which threatens death to the sick party. The prognostick signes of them are derived from three heads, The Essence, Causes, and Effects, according to the following table marked with the Letter *L*.

- L. The signes of an healthy and deadly disease are taken either from its
  - Essence, in respect of which it is either
    - Similar.
    - Organical.
    - Common.

    and these either
    - Simple.
    - Complicate.
  - The Causes, which are either
    - Efficient, or various humors.
    - Material, or the subject.
    - Helpful or hurtful.
  - The effects, which are either
    - Actions
      - Animal
        - Principal.
        - Less principal, which are either
          - Sences
            - Internal
              - Sleep.
              - Watching.
              - Dreams.
            - External
              - Seeing.
              - Hearing.
              - touching &c
          - Motion, to which is referred
            - A voluntary commotion of the members.
            - Lying down.
            - Trembling.
            - Convulsion.
            - Stiffness and shaking.
            - Sternutation.
      - Vital, to which refer——
        - Respiration.
        - Pulse.
      - Natural, to which belong——
        - Attraction, to which
          - Hunger.
          - Thirst.
        - Expulsion, to which [The Hicough.
    - Excrements ejected by——
      - The eyes.
      - Ears.
      - Nostrils.
      - Mouth.
      - Belly.
      - Bladder, to which refer urine
        - Liquor
        - Contents

        and in these
        - Substance
        - Quantity
        - Quality.
        - Manner of excretion.
      - Sweats.
      - Abscesse and pimples.
    - Qualities
      - First
        - Calidity.
        - Frigidity.
      - Second
        - Hardness.
        - Softness.
      - Third
        - Colour.
        - Smell.
        - Taste.
        - Sound.
    - Proper accidents chiefly considered in——
      - The eyes.
      - Ears.
      - Nostrils.
      - Teeth.
      - Temples.
      - Lips.
      - Tongue.
      - Jawes.
      - Hypochondriums.

By

By observing the series of which Table, the following Theorems will discover an healthy or deadly disease.

The Essence.

A day-expiring Feaver, and all true intermitting Feavers are healthy, and bring no danger.

The Solution of a strong Apoplexy is impossible, of a slight one difficult. Aph. 42. Sect. 2.

That is called a strong Apoplexy, which introduceth a total privation of sence and motion, together with a great læsion of respiration: But a slight one is that in which there is no such loss of sence and motion, or so violent an injury of respiration.

In a strong one the brain is so oppressed, that it cannot by any means free it self from it; nor in a slight one neither, without much struggling: so that alwaies if a solution is made, it degenerates into the Palsie, by reason of the weakness of nature, unable any longer to expel the morbifick matter.

Those who are taken with a Tetanus, dy within four dayes, but if they escape in them, they recover.

A Tetanus, according to *Galen in his comm.* is a disease compounded of an emprosthotonus and an opisthotonus, in which the body is so stiffe and unmoveable, that the breast alone can hardly be moved. It being therefore such a violent disease, it kills a man in the first quaternion, which if he escapes, it is a signe that the fury of the disease is remitted, otherwise it were intolerable.

Those who frequently and strongly swoune, without the appearance of any manifest cause, dye suddenly. Aph. 41. Sect. 2.

For this signifies a great infirmity, or oppression of vital strength, by which nature is soone overthrown.

Almost every dropsy is in its own nature deadly.

Because the temper of the liver being vehemently injured, is irreparable.

All Feavers continual, and burning, as also the inflammations of internal parts, as Phrensies, Quinsies, Pleurisies, peripneumonies, hepatitides, and the like, are naturally dangerous.

Yet they are not wholly mortal, but according to the various condition of the sick person, they end sometimes in health, sometimes in death. Nor can a Physician under pain of convincible ignorance, give sentence of health or death on the beginnings of these affections, but the critical dayes are to be expected, which do commodiously discover unto us whether the disease incline to death or health.

Upon cessation of a Feaver into a dangerous disease without any evident cause, death not health is to be expected.

Whatever Feavers not intermitting on the third day grow stronger, are more dangerous. But those which pause sometimes, signifie no danger. Aph. 43. Sect. 4.

Continual Feavers either alwaies keep one station, or are increased or diminished. Those which are increased and exacerbated, are worse then those which are not exacerbated, because the evil in exacerbation is made much worse, and more troublesome to the sick person. But they are exacerbated either every day, or every third day. But those which are exacerbated every third day are more dangerous, for that they are caused by bilious and so more hot juyces, to which it is proper to be moved every third day. Of this kind are burning Feavers, and semitertians, which are usually most dangerous.

But those Feavers which intermit are not dangerous, because as *Galen in his comm.* asserts, they proceed not from any inflammation, nor malignant putrefaction, for neither of these acquiesceth without a Feaver. Yet it is known by experience,

ence; at least in these regions, that intermitting tertians have been fraught with much malignity, which in a third or fourth paroxysme did kill the sick parties. We must say therefore that this opinion is of them which do most commonly but not perpetually happen; or we may answer to the defensive argument of *Hippocrates* and *Galen*, that these intermitting tertians have no perfect apyrexy, and there alwaies lies hid some obscure sparkles of a Feaver raked up in the embers of intermission.

They who by an asthma, or cough, are distorted to gibbosity, dye before their puberty. Aph. 46. Sect. 6.

For the heart and lungs being augmented, by which they become disproportionable to their place, this crookedness hindring the amplification of the breast, it happens that the augmenting bowels cannot be long crouded up in too narrow a lodging, so that shorly after gibbosity it introduceth death: not that we may draw a consequence from this, that the sick persons presently dye, but that they fall far short of that diuturnity of life, to which otherwise they might attain.

A Dropsie accompanying or succeeding a Feaver, is usually deadly. as Hipp. 2. progn.

Because it ends not the Feaver, but signifies the exolution of the native heat.

Intermitting quartans converted into continuals are for the most part deadly.

For they shew that the humors are incinerated, which is almost irreparable.

A Pleurisie or peripneumony succeeding an Asthma is deadly.

Because when the cavities of the lungs are filled with pituitous humor, and the lungs are debilitated, there can be no anacatharsis; and respiration is so hindred by both affections, that the sick person must of necessity dye, But yet if an anacatharsis be easily made, and the other symptomes be not too vehement, he may be recovered.

A Peripneumony after a Pleurisie is bad. Aph. 11. Sect. 7.

This opinion grounds upon a general axiome proposed by *Hippocrates in his book of diseases, viz.* that the adjunction of one disease to another is a bad signe. But a worse, when a disease adjoyned is worse then the former; worst of all, when it happens upon a *delumbation* of strength. A peripneumony therefore being more detrimental then a Pleurisie, and when it succeeds that, the strength being much broken by the rude oppression of the antecedent disease, it is usually extraordinary bad, and often deadly. Therefore when *Hippocrates in his Aph.* in less dangerous cases uses the term *bad*, in more perillous *deadly*, he should certainly have used the term deadly here; so that *Galen* may not without cause doubt, whether that word bad was by *Hippocrates* there placed, being by his testimony not found in some books.

The venereal disease is with much difficulty curable in a Leper.

Because by drying remedies, such as sudoriferous, the Leprosie is much exacerbated, and made farre worse.

The causes.

Efficient. *Diseases caused by bloud are healthy, unless they acquire malignity and much putrefaction.*

Vitelline, porraceous, eruginous, and black choler, do introduce deadly diseases.

Material. *In bodies of a well disposed and laudable temper, healthy diseases are most commonly generated.*

The bladder, or brain, or heart, or midriffe, or any of the thinner intestines, or ventricle, or liver being torn, it is deadly. Aph. 18. Sect. 6.

Hippocrates calls those parts torn which are much and deeply wounded. So the

the whole tunicle of the bladder divided to the interiour space, cannot be united; nor such a wound, *viz.* great and deep, in the nervous parts of the midriffe, or in the thin intestines. But in the ventricle it is sometimes, as *Galen* will have it, but seldome cured. The reason of this is because the bladder is nervous, thin, and bloudless, whence it is that wounds in the neck thereof are curable, because that is carnous. But the wounds of the Liver by reason of the copious profusion of bloud are deadly, if so be the veines thereof be dissected; otherwise wounds which have toucht onely the outward superficies of the liver are curable. So the wounds of the brain, if they be not very deep, are within the compass of skil; but if they touch upon the ventricles, they are deadly.

Helpful and hurtful. *Those diseases which deny all benefit of remedies, are accounted deadly; and on the contrary, those that embrace many as profitable, are healthy.*

EFFECTS.

Animal Actions.

To be ones self, and well disposed to things offered, is good, but the contrary bad. Aph. 33. Sect. 2.

Principal. For when the mind is sound, it is a signe that the brain is well, and the membranes thereof, as also the *spinalis medulla*, and the whole stock of nerves, and those especially which are neareſt neighbours to the brain it self: so when a sick person is not offended at meat and drink, and other things which are offered to him, this speaks the ventricle, liver, and other natural parts to be in indifferent good plight.

Deliration. Now on the contrary, if the sick person be in any kind of deliration, or be beside his accustomed senses, it is alwaies a bad signe. So in *Hippocrates* 1. *Epid. Sect.* 3. *ægr.* 1. *Philiscus* the third day was in a total deliration, on the sixth day he dyed. Again, *ægr.* 2 *of the same Sect. Silenus* the second day was troubled with some deliration; the third he slept not at night, he could not refrain from much talk, laughing, and singing; on the eleventh day he dyed. So also *ægr.* 4. *of the same Section.* In *Thasus* the wife of *Philinus*, when she had brought forth a girle, purgation being made according to nature, and otherwise being in good state on the fourteenth after her delivery, a great Feaver took her with a trembling; the sixth day at night she was extasied to a great deliration, and again returned to her senses: on the eighth she talked much, and rose; on the tenth she had little use of her senses: on the eleventh she slept, remembred all, but did quickly fall to her deliration again: on the fourteenth she had palpitations all her body over, talked much, understood little, but again soon relapsed to a deliration.

But about the seventeenth she was speechless, on the twentieth she dyed. And so *ægr.* 8. *of the same Section.* A great Feaver after supper seised upon *Erasinus*, who dwelled upon the river *Boota*, he passed the night with trouble, the first day quietly, the night molestiously. On the second day there was a total exacerbation, deliration at night. The third day was troublesome to him, with much deliration. The fifth morning he returned to himself, and understood every thing, but at noon he raved much, could not contain himself; his external parts cold, and somewhat pale, his urine stopped. About sun-set he dyed. The like chances may be seen in *ægr.* 12. *of the same sect.* 1. *&* *ægr.* 13. *Sect.* 3. *book* 3. Yet we cannot infer from these examples that deliration is necessarily deadly to all sick persons; for *Hippocrates* in the *beforementioned Aph.* saith onely, that it is bad, that is, that it endangers life, though many do frequently escape this danger, as is evident in the same *Hipp. in* 1. *Epid. Sect.* 3. *ægr.* 3. Where *Herophon* being taken with an acute Feaver, on the fifth

fifth day was besi de his senses, on the sixt in a deliration; at night he sweated, was cold, his deliration remained, on the seventh he was fooliſh, at night he returned to his senses, slept; on the ninth day he sweated, was judged, and intermitted.

On the fifth day after he relapsed, was judged the seventeenth, neither did he rave: in this recidivation and in *ægr.* 5. *of the same section*: where the Wife of Epicrates, which lay in at the house of *Archegetes*, the second day after her delivery was taken with an acute feaver: on the sixt with delirations; on the seventh a total exacerbation: sleepless, she raved; on the sixteenth at night troublesome exacerbations, she slept not, she raved. On the eighteenth she was thirsty, her tongue scorched, she slept not, she was in a very great deliration: she was perfectly judged from her feaver on the eightieth day. We may find such like stories, *book.* 3. *Epid. Sect.* 1. *ægr.* 3. *and Sect.* 3. *ægr.* 7. And therefore though a deliration be alwaies ominous, yet by it we cannot confidently assert the death of the sick party, unless this joyn with other bad and deadly signes in a destructive conspiracy; as shall more clearely appeare by the following theorems.

When in a feaver not intermitting difficulty of spiration and deliration are companions, this is deadly. Aph. 50. *Sect.* 4.

Both these symptomes proceed sometimes from the læsion of the braine; then the spirits appeare big, as hipp. *in his progn.* saith, and as it were at a great distance, that is big and thin. But the difficulty of spiration proceeds from the affection of the spirital parts, as a Pleurisy, peripneumony, and the like. But all these are very dangerous.

A deliration succeeding upon effusion of blood, obstruction in the guts, Pleurisy, or peripneumony, is bad. Aph. 9, 10, 11, 12. *Sect.* 7.

When it followes an effusion of blood, it is caused by emptiness, which is very dangerous, when it so much debilitates the principal parts. But in other affections when the braine is sick for company, this signifies a very strong and dangerous affection.

If any sick person do any thing unaccustomed, it is very bad. 1. *Coac. Aph.* 50.

For this shewes that the mind is not sound; and is a species of deliration.

An harsh answer given by a sober man, and a gentle one returned by an angry man; garrulity in a person not talkative, and taciturnity in a pratler, is bad. Hipp. in Prorrhet.

For this denotes a great subversion of judgement.

To lament or weep unvoluntarily is a species of deliration, and portends the danger of death.

For this signifies the supremacy of atribilary humor. So in *Hipp.* 1 *Epid. Sect.* 3. *ægr.* 2. *Silenus* among the other symptomes which are there recited, grieved very much the eighth day, and dyed the eleventh.

Deliration appearing about the beginning of a disease is more dangerous.

For this denotes the vehemence of the disease, who at the first encounter, nature being yet a strong antagonist, exerts such symptomes.

Deliration accompanied with remarkable oblivion, idleness and stupidity, is a signe of destruction. 2. *Prorrhet.*

For the refrigeration of the braine is the cause that they know not their familiars, nor remember any transactions. But this refrigeration which followeth heat is destructive. But if the sick person upon this grow stiff and cold, death is judged the inevitable attendant thereof, as *Galen* 2 *Prorrhet.*

Deliration busied about things necessary, is very bad; and if it thence increase, deadly. 1 *Coac. Aph.* 103.

As if any sick person be averse to meat and drink, he is much endangered as *in* 1 *Epid. Sect.* 1. *ægr.* 2. doth appeare; where one the tenth day denied drink, dyed on the eleventh.

Deli-

ration accompanied with laughter is more safe; but with study, more dangerous. Aph. 53. Sect. 6.

A phrensy with laughter is caused by blood; but with meditation and fury, by choler: And both are dangrous; but that which proceeds from blood, much less. Yet we must not presently assert health upon a deliration appearing with mirth; for a phrensy caused by blood even in it self is not without danger, and upon permanence of the disease that blood is scorched, and naturalizeth it self into black choler, which is evident by the consequent symptomes, and by laughter converted into fury and sadness; as we may find in 1. *Epid. Sect.* 1 *ægr.* 2 where *Silenus* on the second day of his disease was a little fooliſh, on the third he could not abstain from much talk, laughter, singing: on the eighth he was much grieved. Now therefore that humor which on the third day retained the nature of blood, and caused laughter and singing, was on the eight day converted into atrabilary humor, by which sadness with grief is caused. And therefore on the eleventh he died. We may then assert that fondness with mirth promiseth some security, if it continue through the whole course of the disease.

They who run beside themselves with silence, being not speechless, are dangerously affected. Book 1. Coac. Aph. 79.

For this melancholick extasie is produced from the atrabilary humor fixt in the brain, and often succeeds fury, causing instead of clamors, silence; for jactation, quiet; for watching, comatous and dead sleeps. So *in* 3. *Epid. Sect.* 2. *ægr.* 6. The daughter of *Eurianax* being sick of a great Feaver with which she died, in the whole course of the disease, saith *Hippocrates*, she abhorred all meat; not thirsty, silent, speaking nothing, sadness and despair presently possessed her. So also *Sect.* 3. *of the same book*, In *Thasus*, an horrid Feaver, acute by sadness, took the wife of *Dealces* lying in the plain, but in the beginning she was covered, and to the end alwaies silent, she handled, pulled, scratched, gathered the flocks, then issued tears, then proceeded laughter; on the ninth day she talked much, and was again silent, on the twentieth day she died. She had to the end spirit big and rare; alike insensible to all things, alwaies covered, either very talkative, or silent to the end; Phrensie.

In a Phrensie a sudden repentance, the acute Feaver remaining, without any antecedent Crisis, signifies the approching of death.

For it sometimes happens that phrenitical persons do so repent, that they admoniſh the standers by of very grave and serious things, and foresee future events which may happen to them; and suddenly upon this dye, *viz.* the native heat of the brain being now destroyed, and struggling its last, as a Candle when it is almost extinct seems to flame more.

In fondness the abolition of memory is mortal.

This is manifest when the sick person calls for a chamberpot, and after forgets to exclude his urine; or demanding water, drinkes not when the cup is offered, or does but onely taste it.

Of delirations these are accounted less evil, which are gentle and slight, and which hold not the sick person perpetually, but are of a short duration, and with good, or at least not deadly signes.

Such fondness doth most frequently happen in the paroxysmes, or exacerbations of bilious Feavers, in which the choler being stirred and exagitated transmits vapors to the brain, exciting a fondness; which yet are easily and speedily dispelled, nor do indanger life at all, unless they appear with other deadly signes. But this fondness must be gentle and slight, for those that are joyned with fierceness, though they be slight, are usually bad. As *Hipp.* affirms, 1. *Prorrhet. aph.* 25. *de-*

sipience efferated in a short time, is like wildness. And *Galen*, explaining the same sentence; *When you see any one desipient with ferocity, though it be soon allayed, know that his mind is not thus iniured by the Feaver, but there lurkes a phrenitical affection, which being afterwards augmented seems to be wildness.*

A phrensie succeeding a lethargy is healthy, because it signifies that the matter is concocted.

A fondness happening on a critical day, with full strength, and other good signes, is not dangerous.

For this denotes an imminent Crisis, which usually brings the disease to a solution. So in *Hipp.* 3. *Epid.* in a morose woman, the convulsions rested the third day, a *Coma* and inclination to sleep; again watching roused her, she could not contain, raved much, was taken with an acute Feaver; on the same night copious and hot sweat issued out of the whole body, she slept free from her feaver, and came to her right understanding.

Sleep and watching. *If either sleep or watching be excessive, it is bad.*

For this signifies a recess from the natural state, and a morbous disposition in the principal part, which is alwaies bad.

In any disease, if sleep and waking keep their customary vicissitudes which they did in the health of the person now sick, it is good.

For it seems impossible for a man to dye of any disease, who hath a laudable and unchanged intercourse of sleep and waking.

Wakings in the augmentation or state of a disease, appearing with the signes of concoction, are good.

For they signifie the appropinquation of a Crisis, whose forerunners are watchings, and other symptomes caused by critical perturbations, which yet upon the appearance of the signes of concoction are not to be feared, as being the antesignanes of an healthy Crisis.

Immoderate watchings are more dangerous in young men; but in old, immoderate sleep.

Because the recess from the natural state is the greater: for young men do naturally sleep more, because their moisture is more copious; but old men being more dry are naturally more vigilant.

Those sick persons which can neither sleep night nor day are in much danger. Hipp. 2. progn.

For those continual watchings shew a very great, hot and dry distemper of the brain, and very much debilitate the strength, multiply crudities by the resolution of native heat, and at last cause fondness and convulsions.

Dead sleep in an acute Feaver is pernicious.

So in *Hipp.* 3. *Epid. Sect.* 1. *ægr.* 2. *Hermocrates* was taken with a great feaver, and after many symptomes began on the eleventh day to fall into a dead sleep, which persisted, and he dyed the twenty seventh day. But the reason why a comatous affection is in acute diseases so pernicious, may be learnt out of *Galens Commentary upon the mentioned History*, where he argues thus; *It remains therefore that some notable refrigeration of the brain, or imbecillity of some faculty laid Hermocrates in a deep sleep the eleventh day; but which soever of them two it be, it is extremely dangerous, for we have shewen that those colds are incurable which succeed hot and dry diseases.* But that which is caused by infirmity speaks a propinquity of destruction: but when this dead sleep succeeds long watchings, it is more pernicious, for it signifies a total extinction of native heat; so when phrenitical persons become comatous, they have one foot in the grave.

That disease in which sleep causeth trouble is mortal; but where it is advantageous, not mortal. Aph. 1. sect. 2.

We

We must not think that every trouble after sleep is deadly: for if it be a light one, as when sick persons raised from sleep are more anxious and unquiet, this indeed is bad, but not upon necessity deadly: but if after sleep there appear any dangerous symptomes, as fondness, convulsion, weakness, cold of the extreme parts, and the like; then there is cause to think it a deadly affection.

when sleep allayes a fondness, it is good. Aph. 2. Sect. 2.

For this signifies that the heat and acrimony of the vapors and humors causing fondness is mitigated by sleep, and reduced to some mediocrity.

Those to whom upon a fit of cold, a nocturnal exacerbation brings a vacancy of sleep, are dangerously affected. Book 1. Coac. Aph. 20.

For this signifies a retreat of the matter to the brain.

Whosoever is stupefied in a troublesome Feaver, and affected as it were with a catoche, is very badly diseased. 1. Coac. Aph. 47.

As we said before that a Coma in acute Feavers is dangerous, so a Catoche much more; which is caused by a transmigration of the more dry matter into the brain and nerves; hence the nerves are bound, and therefore they who are troubled with this affection, stand at the same pitch, and remain stupid though their eyes be open and inconnivent; and so they differ from Comatous persons, whose eyes are alwaies shut.

Excitations from sleep with fear and turbulency, are dangerous.

For they signifie copiousness of atribilary humor, which produceth such like passions.

If in sleep, when the eyelids hang, any thing of the white part of the eye appear, which is neither caused by a flux of the belly, nor fasting, nor hath it been usual for the sick party to sleep so, it is a bad signe, and very deadly. Gal. in 1. progn.

For this signifies the extinction of the faculty moving the eyelids.

Dreams. *Dreams in a Phrensy remembred, are good signes.* 1. Coac. *Aph.* 91.

There is nothing more to be desired in a phrenitical man, then that he fall asleep, and sleep sweetly. But dreams are signes of sweet sleep.

But those not turbulent ones and tumultuous, but gentle and quiet, which are afterward remembred by the sick persons; for this is a signe that they are come to themselves again, and that the brain enjoyes again its formerly moderate temper.

In those who are dangerously sick, dreams of dead men, graves, and priests, denote imminennt death.

In dying persons the soul sometimes is before sensible of her separation from the body, and represents it to the body by dreams, veiled in the species of those things which can signify death.

The sight. *Eyes dimme, or abhorring the light, in acute diseases threaten death.*

For this speaks a great dissipation of the spirits.

In a not intermitting feaver if the sick person see not, or hear not, his body being now debilitated, death is at hand. Aph. 49. Sect. 4.

For this denotes a very great debility of the sensible vertue, and very much exolution of the spirits.

Hearing. *Deafness proceeding from a Critical perturbation, and accompanied with other decretory signes, is usually healthy.*

Those decretory signes which ought to attend surdity, that it may be called healthy, are principally those signes of concoction which usually appear in excrements, and are perpetually good. So 3. *Epid. Sect.* 3. *ægr.* 7. There is a story of *Abderitana* a maid, which from the eighth to the seventeenth, on which a copious effluxion of blood was conveyed through her nostrills, was affected with deafness,

which persevering the following days also, denoted the first Crisis imperfect, and shewed another to come for the resolution of the disease, which after a second eruption of blood, sweat, and transition of the humor to her feet, on the twentieth day followed. By which evacuations the disease not being wholly taken away, her deafness on the four and twentieth day returned in company of other symptomes, which was a nuntio of a completely perfect Crisis on the twenty seventh day, which will more clearly appear by the words of the story it self. *On the seventh day,* saith he, *proceeded thin, but well coloured urine; as to the excrements of the belly, they were not troublesome: on the eighth day she was deaf, taken with an acute Feaver, waking, anxious, trembling, in her own mind, voiding the like urine: on the ninth in the same condition, and the daies following the deafness so persevered: on the seventeenth large effluxions issued out of the nose, little of the deafness remitted; on the daies following surdity, and fondness seised her: on the twentieth a pain of the feet, deafness, and fondness took her; some blood issued out at her nose, she sweated without a Feaver: on the twenty fourth the Feaver visites her again, surdity again, the pain of her feet remained, with an alienation of mind; on the twenty seventh she sweated much, without a Feaver, her deafness departed, the pain of her feet remained, but in the rest she was perfectly iudged.*

Deafness succeeding an acute and turbulent disease is shrewdly bad. 1 Coac. *cha.* 3. *Aph.* 2.

As surdity in conjunction with good signes is good, so with bad it is usually bad: if therefore the disease be acute and turbulent, that is, joyned with fondness, and other dangerous symptomes, deafness following upon it threatens death. So in *Hipp. book.* 3. *Epid. Sect.* 7. *ægr.* 2. *Hermocrates* was taken with a great feaver, and began to be pained in his head, and loynes, a soft tension of the hypochondrium; but his tongue at the beginning scorcht; deafness presently followed, want of sleep, not very thirsty, his urine thick, red, and separating, subsided not, yet excrements not a few scorcht were expelled by the belly. On the fifth day his urine thin, had an *Enæorema*, did not subside; at night he raved, the seven and twentieth day he dyed. And his surdity persisted with him to the end. So again *Ægr.* 4. *of the same section, Philestes* in *Thasus* vomited bilious matter, a little yellow first, after much eruginous; but the excrements proceeded from his belly in the night with trouble: on the second day he was deaf; on the fifth in the morning he dyed. Yet it is observable, that surdity also joyned with bad signes is not perpetually deadly, but dangerous onely, and with it some escape. As appears in the same *Hipp. in* 1 *Epid. Sect.* 1 *ægr.* 3. where *Herophon* was troubled with an acute feaver, had effluxions from the belly, such as in a *tenesmus* at the beginning. Afterwards issued thin, bilious, and subcontinuous excrements, sleep was wanting, The urine was black and thin. On the fifth day, he became in the morning deaf, with a total exacerbation, his milt swelled, a contension in hypochondrium, he excluded by the belly some few; black excrements, and was out of his senses: on the ninth day he sweated, was judged, intermitted: on the fifth day following he relapsed, his milt was presently tumefied, he taken with an acute feaver, and deafness again. But the third day after this recidivation his milt was asswaged, his deafness diminished, his leggs pained, at night he sweated; on the seventeenth day he was judged, neither was he idle in his recidivation.

If after a Phrensy, or other grievous disease of the head, deafness succeeds upon the cessation, or alleviation of the first disease, the faculty being not debilitated, it is a good signe.

For this is caused by the departure of the matter from the internal to the external parts of the brain, and then as the result of this we may expect impostumations.

An humming and sound of the ears in acute feavers is deadly. 1. Coac. *cha.* 3. *Aph.* 5.

A tinckling of the ears, and other sorts of sounds perceptible to sick persons, in acute diseases shew a very difficult and dangerous disease, because they are produced from thick flatulencies, which proceed from thick matter; and this matter being contumaciously rebellious, nor subjugable in the short duration of an acute disease, it followes that nature by this burdensome oppression must first fall, and so the sick person dy.

Smelling and tasting. *If the meat, drink, and medicines offered seem putrid, and of an ill savour, it is bad.*

For this signifies that humors very putrid and unsavoury are copious in the body, whereas smelling and tasting are vitiated by vapors exhaling from various putrid humors, to the tongue, nose, or brain; and that smell or tast which is within keeps out any other external, according to the Philosophers position, and hinders its reception. This is the cause that when the nose and tongue are infected by putrid vapors elevated from the inferior parts, all things then smelled or tasted seem putrid.

Touch. *Pains possessing the ignoble and farr remote parts from the bowells, and long exercising them, the signes of concoction appearing, and those chiefly which begin on a decretory day, are healthy.*

For they hint to us that nature doth exonerate the principal members, and excommunicate from its commerce the noxious humors.

But the ignoble and farr remote parts from the bowells are the groin, the leggs, the knees, the thighes and feet, as also the armes and hands. But we must observe by such like paines, that diseases are not alwaies perfectly judged, but sometimes imperfectly, so that afterward a recidivation may succeed. But diseases are perfectly discussed, when evacuations convenient for such like pains succeed; for instance, by sweats, effluxions of the belly, and the like, which may exhaust all the morbifick matter; but if no evacuations follow such pains, or insuficient ones, the solution of the disease is imperfect, and obnoxious to recidivation, because that the whole morbifick cause can by no means be hedged into an ignoble part: it is therefore necessary that the disease should be finished by other evacuations, as appears in *Hipp.* 3. *Sect.* 3. *ægr.* 9. Where *Heropytus* affected with a great and contumacious disease, after divers symptomes, and flux of bloud too, which indeed did diminish, but could not operate a solution of the disease, he was troubled with pains in his inferiour parts, and lastly he was totally freed by the effluxions of the belly. *Hippocrates* words are these; *On the fortieth day bloud was copiously effused out of his nose, and he was better in his senses, he was indeed deaf, but little: the Feavers remitted, bloud flowed on the following daies, often and in small quantities. But about the sixteenth day the effluxions of blood ceased, but he was notably pained on his right hip, and his Feaver was intense, and not long after he felt pains in all his inferiour parts: but it happened that either the Feaver was augmented, and much surdity, or that that was remitted and asswaged, but the pains of the inferiour parts about the hips heightened. But about the hundreth day his belly was much molested with many bilious excrements, and many such did proceed in no little time; then followed a dysenteria with pain; but a convenient state of the other members. Finally his feaver left him, his deafness ceased, on the hundreth day he was perfectly iudged.* So also *Ægr.* 7. *of the same Section*, on the seventeenth day copious effluxions proceeded from the nose of *Abderitana* a maid; on the twentieth she was pained in her feet, taken with deafness and fondness, some bloud issued from her nose, she sweated, without a Feaver; on the four and twentieth the Feaver returned, and surdity again, the pain of her feet persisted, then came an alienation of mind: on the seven and twentieth day she sweated much, without a Feaver, the pain of her feet remained,

but

but in the reſt ſhe was perfectly judged.

Pains deſcending from the ſuperiour to the inferiour parts, are healthy.

For they ſhew that the morbifick matter is conveyed away from the principal to the more ignoble parts, according to the mind of *Hipp.* 3. *Prorrhet. Paines*, ſaith, he, *if they run down to the lower parts, are eaſily drawn from them*; and it is confirmed by the ſtory of *Herophon*, which is reported *in* 7. *Epid. Sect.* 7. *ægr.* 3. This mans milt in the fifth day ſwelled with a tenſion of his hypochondrium: on the eighth the humor of his milt was mitigated, he was pained in his groin; firſt his milt ſwelled according to rectitude; after he was pained in both knees, he paſſed the night away eaſily; his urine was of a better colour, having a ſmall ſubſidence: on the ninth day he ſweated, was judged, intermitted: on the fifth day after relapſed, and his milt preſently ſwelled, his acute feaver and ſurdity returned again; but on the third day after this recidivation his milt was aſſwaged, his deafneſs diminiſhed, his legs pained, he ſweated at night, and the ſeventeenth day was judged.

Vehement and continual pains of the head in an acute Feaver ioyned with any other dangerous ſignes, are deadly: 3. progn.

For when thoſe pains are violent and continual, it is plain that they are not cauſed by vapors aſcending from the inferiour parts, nor by any critical perturbation, but by a very hot diſtemper ſtampt upon the *meninges*, tenſion and gravity being in them produced by that morbifick matter which is lodged in the brain it ſelf, which if it generate an acute Feaver, is bilious and ſharp, and very troubleſome to the part; and ſuch an one is ſignified, if with pains, and an acute Feaver, other bad and dangerous ſignes appear, as watchings, fondneſs, difficulty of ſpiration, urine thin, or confuſed, and the like, which according to their number ſhew the danger of the diſeaſe.

The pains of the head ſucceeding Critical ſweats, preſage for the moſt part death.

Pains in the neck in the begininng or amgmentation of a diſeaſe are bad.

For they ſignify plenty of humors abounding in the poſtern part of the head, and that part thereof is diffuſed into the *ſpinalis medulla*, or the membranes thereof, which cannot be diſſolved, or concocted by nature. So in 1. *Epid. ægr* 2. *Silenus* ſoon after the beginning of his diſeaſe had a pain in his loyns, and gravity in his head, a contenſion of his neck; on the twentieth day he dyed. So again 3. *Epid. Sect.* 3. *ægr.* 4. A perſon phrenitical, whoſe head and neck the firſt day were troubled with a painful gravity, the fourth day dyed. In *Cyzicum*, a woman which brought forth ten daughters, whoſe delivery was difficult, without much purgation, was firſt taken with an horrid and acute feaver, troubled with an heavineſs of the head, and neck attended with pain, on the ſeventeenth day ſhe dyed. Yet it is to be noted, that by this ſigne we cannot abſolutely affirm death, becauſe ſome doe with it eſcape, as appears *in* 1. *Epid. Sect.* 7. *ægr.* 5. Where on the ſecond day *Epicrates* his wife was afflicted with a pain of her head, neck, and loyns, and was troubled with many and dangerous ſignes to the eightieth day, in which ſhe was perfectly judged. And *ægr.* 14. *of the ſame ſection*, *Melidia*, who was ſick by the Temple of *Iuno*, had a great pain in her head, neck, and breaſt, accompanied with other ſymptomes, and on the eleventh day ſhe was perfectly judged. When therefore this ſigne appears in the beginning of a diſeaſe, we may confidently aver by it a very troubleſome and dangerous diſeaſe, on which the ſick perſon will either dye, or be very dangerouſly ill, as appears by the recited ſtories of theſe who have eſcaped, yet with ſhrewd ſymptomes, and much danger of life.

An acute pain of the ears in a continual Feaver, is dangerous.

For it is an hazard if a man fall not into a deſipiency, and dye, *Hipp.* 3. *progn*:

But

this signe being accounted fallacious by *Hippocrates* himself, we must accurately distinguish. The *dura meninx* is neighbour to the auditory passage, so that the disease of one hath an easy way of transmigration into the other; but they doe so differ, as that if upon the affection of the brain a pain surprise the mentioned passage, it will not be a signe of fondness or death, but a guard and fence against them both; for this shewes that the morbifick matter is transferred from the internal to the external parts. But if in an acute feaver a pain arise without any affection of the brain, it is a signe that the humors by that part assayl the brain, which will by that effect a Phrensy, and next death; most of all if it be vehement and difficult. But such a disease (as *Hipp.* informs us *in the quoted place*) dispatcheth young men on the seventh day, or sooner; but old men much slower, for Feavers, and fondness more seldome happen to them, and so their ears will admit of suppuration. But at this age recidivation happening kills many: but young men dye before their ears can be suppurated; and if white matter be excluded at the eare of a young man, there is hopes of his life, if any other good signe happen.

The pain of the iaws in an acute Feaver is perillous Hipp. in Coac.

This pain of the jaws often happens in malignant and pestilent Feavers, and is one of the demonstrative signes of that affection; and it is caused either by a thin and malignant defluxion from the brain breaking in upon the jaws; or by malignant vapors sent up by the inferiour parts, and vellicating those parts.

A pain seated in the breast with a numness, is perniciow; and if an acute Feaver surprise persons so pained, they dy cruelly. 2. Prorrhet. text. 36.

For they signify plenty of bilious humor effused into the breast, which causeth both the pain and the acute Feaver, if a numness, and as it were an exolution of the whole body be adjoyned; for this shewes the destruction of the animal faculty, the brain being by sympathy dangerously affected.

Convulsions in acute Feavers, and strong pains about the bowels, are bad. Aph. 66. Sect. 4.

As in acute Feavers convulsions are caused by an hot and dry distemper exsiccating and distending the nerves; so in the same disease pains in the guts proceed from the vehemency and siccity of the inflammation, and the stronger these pains are, the more they declare the magnitude of the cause, and by consequence of the danger. For pains in the bowels are caused either by inflammation, or erysipelas, or strong obstruction, or abscess: but of these *Hipp.* discourseth not *in this aph.* Though their danger be no whit less, but they do not necessarily inferr convulsions, and we treat here of primary Feavers, not of symptomes, which attend on the mentioned affections: of these pains we have an example 1. *Epid. Sect.* 1. *ægr.* 11. Where the wife of *Dromeada* being troubled with an acute Feaver, on the first day began to be pained in her *Hypochondrium.* On the third day about noon she was extremely cold, was taken with an acute Feaver, like urine, the pain of her *Hypochondrium,* but on the sixt day she died.

The beginnings of diseases arising from the pain of the back, are difficult. 1. Coac. cha. 12. Aph. 5.

For in Feavers the pains and heavinesse of the loyns are commonly produced by the weight of the peccant matter, creeping into the *vena cava,* which borders upon the back and loyns; and when this matter is inflamed it excites pains and burnings in the loyns, which speak a dangerous disease, as well by reason of the plenty and acrimony of the morbifick matter, as for that the morbifick matter may by these inlets easily invade the principal parts. To this add, that heat communicated to the Liver and the parts thereabout, by reason of vicinity produceth various symptomes.

The pains of the ignoble parts appearing in the beginning, or with other unlucky signes, are deadly.

As we said before that such like pains were healthy, when they happen on a critical day accompanied with the signes of concoction, as signifying that nature doth vnload in the ignoble parts; so on the contrary, if they happen in the beginning, in which no healthy expulsion can be by nature made, or at other times also with other bad signes, they threaten the danger of death. So in *Hipp.* 1. *Coac. Aph.* 13. The pains of the hands and feet are horrid, and any hope of alleviating the pains of the knees is desperate.

This opinion is confirmed by a convincing history, which may be found 3. *Epid. Sect.* 3. *ægr.* 5. In *Larissa*, *Calvus* was suddenly taken with a pain on his right thigh, and applications of remedies availed nothing; the pain persisted to the third day, and he died on the fourth.

Pains beginning first in a remote part, and afterwards surprising the bowels, are bad.

For they shew the transition of the humors to the noble parts, which *Hipp.* 3. *progn.* confirmes. *Pains*, saith he, *which with an acute feaver besiege the loyns and the inferiour parts, if they assayl the bowels, and leave their inferiour dwellings, they are very destructive.* And 1. Coac. cha. 1. Aph. 13. *And the inrode of a pain from the thigh upward is terrible. And* Aph. 76. *of the same chapter; The sharpness of pain, if for a little time fixt in the throat, it remove higher, causeth danger of death.*

Pains of the ignoble parts, which without any manifest cause do soon vanish and hide themselves, are dangerous.

They are said to withdraw themselves without any manifest cause, when they doe abruptly break off without the help of a Physician, evacuation, or abscession. For they either signify the mind affected, and so insensible of the pain; or the translation of the matter to the interiour parts, or the corruption of that part in which sense is destroyed. So in the mentioned history of *Calvus*, the pain of his thigh disappeared the third day, by reason of the transmigration of the matter to the brain; or else by reason of his fondness he was not sensible of the pain. These are the words of *Hippocrates*, *On the third day the paine of his thigh ceased, but an alienation and perturbation of his mind followed, with much jactation: on the fourth day about noon he died.*

Motion. *In any disease, if the sick person can easily rise and lift himself up, and turn himself from side to side, it is a good signe; on the contrary, if he cannot without difficulty move himself, it is a bad one.*

As the soundness of any function denotes the levity of a disease, so among the animal functions, if that which belongs to voluntary motion be not hurt, we have the greater hopes; and on the contrary, if it be much detrimented, so that the sick persons can hardly move themselves, it is vsually dangerous.

Much jactation of the body, anxiety and unquietness in an acute feaver, is bad.

For this denotes the ferocity and turgency of the humors, which being thin and very moveable, and vehemently agitated in the body, it is an hazard if they sally not out upon the principal parts, and produce some pernicious affection. So in *Hipp.* 3. *Epid. Sect.* 2. *ægr.* 12. A woman presently upon the beginning of her disease was thirsty and anxious. On the seventh day she was extreme cold, an acute feaver seised her, with thirst, and much jactation. On the eighth day she was again hot about noon, thirsty, comatous, and anxious. On the fourteenth she dyed.

Lying down. *That method of lying down is best which every one in health observes.* Hipp. book. 3. Coac. tract. 1. Aph. 9.

But this decumbency which is like that of healthy persons is by *Hipp.* 1. *prognost.* described in these words; *A sick person must ly on his right or left side with his armes, neck,*

neck, leggs somewhat bended, and the rest of his body lying easily. For by this situation of the body all the parts rest, and all the muscles are relaxed, respiration more free, and sleep more pleasant. If then a sick person taken with an acute disease observe to ly down in this manner, it is a notable signe of a vigorous faculty, which supports cheerfully, and with no difficulty, and easily governs the body.

The heavinesse of the whole body, hands and feet, is dangerous. Hipp. 3. Coac. tract. 1. Aph. 3.

The gravity of the whole body is discovered by this, that the sick person can hardly move himself in his bed, and turn upon his sides, and when he is moved by assistants, he represents a leaden bulk and burden. But the heavinesse of the hands and feet appears by this, that the sick party can hardly lift up his hand to take meat and drink, or exercise any other thing; or if when they be so difficultly lifted up, they tremble, or if by being lifted up by the Physician, they fall down again like a stone. But the heavinesse of the feet is discoverable, when they be extended without any reflexion to the end of the bed. All these are signes of a much debilitated and almost expiring faculty.

To ly on the back with the hands, leggs, and neck extended, is bad. Hipp. 3. Coac. tract. 1. Aph 10. and 1. progn. text. 2.

For this argues a great infirmity in the animal faculty, which cannot confine the body to any other situation. But this supinity is caused when the body is overburdened by its own weight, as appears in men dying, which do alwaies thus ly: and it is more confirmed by the extension of the members, which proceeds from their gravity.

If the sick person cannot contain himself, but often fall down to the place of his feet, it is mortal. Hipp. book 3. Coac. tract. 1. aph. 11.

For this signifies the animal faculty almost extinct, so that it cannot govern nor sustain the weight of the body, but it is forced down by its own gravity to the lower parts.

If one troubled with an acute disease sleep gaping, it is mortal. Hipp. 1. progn. text. 20. and 3. Coac. tract. 1. aph. 12.

For this gaping is caused either by reason of the infirmity and exolution of the faculty moving the jaw bone, or by a great inflammation of the heart, and other parts, whence vapors are effused in such plenty, that for their continual exclusion the sick persons are forced to ly gaping. But this is principally caused in sleep, because then the heat of the inner parts is intended, which sends up a greater plenty of streams. But if the sick person doth not onely persist gaping in his sleep, but be in the same posture when he is waking, it is much more dangerous. Yet observe, that some by assuefaction even in health do sleep gaping: which if the Physician knows, he cannot from thence take occasion of a prognostick.

To lye upon the belly, for one with whom it is not customary so to sleep, is bad. Hipp. 2. Prorrhet. text. 9. and 3. Coac. tract. 1. aph. 13.

For this preposterous decumbency shews either a fondness, or error in understanding, or a dangerous affection possessing the parts of the belly.

If a sick person be taken lying with his feet naked, and not very hot, as also with his hands, neck, and legs thrown unequally and naked, it is dangerous; for this denotes anguish. Hipp. 3. Coac. tract. 3. aph. 14.

When sick persons in the greatest rigor of a feaverish exacerbation, being very hot all over their body, do lay naked their body and members to cool, this gives no occasion of judging danger. But if upon no compelling necessity, and when their body is temperate enough, they strip their parts, and toss their whole body to and fro, this is very dangerous.

For this, as Hipp. averres, *signifies an Alysmus or anxietude*: which *Alysmus* is grounded upon two causes, one a proritation and biting of the stomach, caused by the sharpness of humor with heat; the other is the oppression of the faculty by the heavines of the body, so that no collocation is in that anxiety pleasing. The signes of both causes are syllogistical: of the first, nausceation, and appetite to vomiting; of the second, frequent jactation impatient of a pause with out nausceation. But the principal cause of jactation is the faculty languishing and oppressed; and the cause of denudation of the body is a burning feaver and *lypyria*.

It is pernicious also to tumble to the bed side, and first to put out the feet, then to raise up the body, and without cohibition either to fall out or rise.

For this denotes an obscure fondness, and is so dangerous, that *Hollerius in his comm. to the Coac. prænat.* affirmes that he never knew any other recover upon these signes.

Those sick persons which desire to be erect, and sit in the vigour of an acute disease, and chiefly in a peripneumony, are in danger. Hipp. 3. Coac. tract. 1. aph. 16.

For this either threatens an imminent phrensy, by reason of which they are so unruly, and tumble inconsiderately without any advantage; or it shewes a great inflammation of the heart, which by this means they desire to allay by a more free inspiration of air; or lastly, it denotes a great oppression of the spiritual parts, possessed by much inflammation, so that respiration can hardly be exercised with erection of the body.

Those sick persons which toss their hands about idly, snatch at strawes, and pick the wooll from their clothes, or pull motes from the walls, and gather the bedclothes as a burden, are mortally affected. Hipp. 1. progn. text. 23.

For these are symptomes of imagination offended, and signes of a very deadly phrensy. So in *Hipp.* 3. *Epid. Sect.* 3. *ægr.* 15. In *Thasus*, the wife of *Dealces* was covered from the beginning, and remained silent to the end; she scrabled with her hands, pulled, scracht, and gathered the wooll; on the twenty first day she dyed. But here arises *a doubt* how *Hipp.* termes these deadly symptomes, when *Galen* 4. *of affected places. cha.* 1. reports of himself, that being sick of a burning Feaver he gathered strawes, and pulled the wooll, and then he admonished his friends to take care lest he should fall into a phrensy, yet from this disease he himself recovered. We must answer, that such symptomes are caused in a true phrensy, the brain being essentially affected, or by sympathy, by the elevation of vapors to it, which do usually generate a *Paraphrenitis*: if it happen in the first way it is deadly, if in the second, not; though it shew greater future evil.

Those persons who are broken and extenuated with a disease, if they fall a trembling, they are in danger. Hipp. 3. Coac. tract. 2. cha. 4. aph. 63.

Trembling. Trembling, according to *Galen in his book of trembling, cold palpitation, and convulsion*, is caused by the imbecillity of the animal faculty.

And this infirmity is by oppression, or exolution. That weakness which is produced by oppression, though it threaten danger, yet it is not deadly, because that oppression which proceeds from the multitude of humors may be expelled by evacuations: but tremblings which happen in the beginning of a disease are most commonly caused by oppression, and are not alwayes deadly, as appears by the example of *Pythion in Hipp.* 3. *Epid. Sect. ægr.* 1. who from the beginning of his disease had a trembling in his hands, yet he escaped. But when a trembling happens in the progress of a disease, the sick person being now weak and extenuated, this without doubt doth proceed from exolution, and therefore denotes death at hand.

It is better that a Feaver should succeed convulsion, then convulsion a Feaver. Aph. 26. Sect. 2.

Con-

Convulsion. *Convulsion*, according to the mind of *Hipp. is either caused by repletion or inanition.* When therefore it happens that any person in health is suddenly convulsed, it is necessary that this convulsion should be caused by repletion, for then the nerves are stuffed with cold and glutinous humors which introduce convulsions: a Feaver therefore coming upon these doth for the most part heat, extenuate, digest, and so resolve the convulsions. But if a convulsion happen in Feavers, they are most ordinarily caused by inanition, and driness, produced by a burning and scorching Feaver; which is a very great, and almost incurable evil, because long time will be required to remove the siccity of the nerves; but the sharpness of the disease will admit of no procrastination, but soon dissolves the strength, and produces destruction.

Those Convulsions which appear in the beginnings of acute diseases, are less dangerous then those that happen in the state of them.

All Convulsions which succeed Feavers are not deadly, but sometimes less dangerous, if they happen in the beginning; for they then signify a multitude of humors, by which the nervous parts are stretched and convulsed. And they use to be far less dangerous if they remain not long, because then they are not produced from a fixt cause, and they shew that the morbifick matter hath removed from the stock of the veins into the bulk of the body, by the concussion and violent commotion of the body, evident in a Convulsion. So in *Hipp.* 3. *Epid. Sect.* 3. *ægr.* 11. In *Thasus*, a woman being froward with grief occasionally caused, could not sleep, and abhorred meats, was thirsty and anxious: in the beginning of the night she talked much, was sick in mind, troubled with a small Feaver; in the morning with many Convulsions, talked obscenely, disturbed with many, great, continual pains: on the second day she was in the same condition, slept not, had a more acute Feaver. On the third day her Convulsions left her, she fell into drowsiness, and sound sleep, and again waking she leapt up; being unable to contain her self she talked much, was taken with an acute Feaver, and the same night she sweated much, in a heat all over, without a Feaver, she slept, understood every thing, and was judged. About which time her months issued copiously.

We may gather by this story, that her Convulsion appearing in the beginning was caused by repletion, not from the authority of *Galen* onely, *in his commentary on this place*, where he affirmes that this womans months were surppressed, but also by those evacuations by which she was freed, *viz.* by copious and universal sweats, and by the plentiful effluxion of her months, according to the common axiome, *diseases caused by repletion are cured by inanition.* But if a convulsion appear in the state of a disease, it is more dangerous, for it is either generated by siccity introduced by a feaverish adustion, or by the transition of the morbifick humor to the nervous parts.

Those which are caused by driness are wholly pernicious and deadly; but those which are produced by permutation are sometimes curable, as those which proceed from the bitings of the orifice of the ventricle, and in hysterical women, and those which happen critically. Yet they are usually difficult, and very dangerous, as appears by the stories proposed by *Hipp. in Epid.* For in 1 *Epid. Sect.* 1. *ægr.* 4. In *Thasus*, the wife of *Philinus* being taken with an acute feaver, after divers symptomes was on the eighth day extreme cold, much convulst with pain; on the ninth convulst: on the eleventh she in her convulsions expelled urine very copiously. But about the seventeenth day she was speechless, on the twentieth she dyed. So *Ægr.* 8. *of the same Section*, *Erasinus* died on the fifth day about sun-set of a pernicious disease. *And to him*, saith *Hippocrates*, *about his death happened many convulsions with sweat.* So *Ægr.* 11. *of the same Section*, the

Wife of *Dromeada*, after divers symptomes, on the sixth day in the morning she was stiffe cold, but speedily again heated, she sweated all over, was cold in her extreme parts, was fond; respiration big and rare, soon after convulsions began from her head, and she died suddenly.

Lastly, 3. *Epid. Sect.* 2. *ægr.* 4. In *Thasus*, *Philestes* being taken with a very acute feaver, was convulst on the fourth day, on the fifth in the morning he died.

In acute feavers, convulsions and strong pains about the bowels are bad. Aph. 66. Sect. 4.

It is before noted in the exposition of *Aph.* 26. *Sect.* 2. that a convulsion in an acute feaver is bad. But if strong pains of the bowels come in company with it, it is without doubt very dangerous; for these pains are caused either by great inflammations in those parts, or by an hot and dry distemper produced by a burning feaver, which must be very great that it may be able to cause such pains, and so it threatens death to the sick person; as is evident by the stories of the wife of *Philius Erasinus*, and the wife of *Dromeada* before proposed, for they did not onely suffer convulsions, but also hypochondriacal pains; and so died.

Convulsions in phrenitical persons signifie that death is near.

Galen. 12. *Meth. last chap.* affirms that his experience could never inform him of any one so convulst that was recovered, nor ever heard he such a thing by the report of any other. For this convulsion proceeds from the siccity of the nerves, occasioned by the inflammation of the brain, which is therefore incurable.

Convulsions in children are less dangerous then in those that have arrived to a full age.

Because as *Galen* relates *in his comm. on* 3. *Aphor.* children do more abound with crude humors, which cause a convulsion by repletion, which is less dangerous then that which proceeds from inanition, with which those that are full grown are more frequently molested; and likewise the nervous parts in children are infirm, and so convulst by a smaller cause.

Those who are taken with a Tetanus, die within four days, in which if they escape, they may be cured. Aph. 6. Sect. 5.

A Tetanus is caused by an emprosthotonos, that is, a tension to the interiors, and an opisthotonos, that is a tension to the posteriors; for in it the convulsion of the opposite muscles is equal, which do therefore so vehemently afflict nature that she cannot long endure those pains, cheifly when the whole body, and especially the neck is stiffe with cold; for then besides those horrid pains which quickly dissolve the strength, the diaphragma is also affected by sympathy, whereas the nerves produced to the diaphragma make out from the fourth vertebra of the neck, and so the neck being convulst respiration is hardened, and the persons so affected die by suffocation within four daies. But if they escape them upon the mitigation and dissolution of the disease by judication, which happens in extremely acute diseases on the fourth day, they are freed from this dangerous disease.

Convulsion upon a wound is deadly. Aph. 2. Sect. 5.

The succession of a convulsion to a wound proceeds from four causes. *First*, when the wound happens to fall upon the great veins and arteries, upon which a large flux of bloud followes, which causeth a convulsion and swouning; but death is not alwaies the effect of this convulsion and *Syncope*. *Secondly*, when the wound is inflicted upon the stock of nerves, by reason of which that convulsion of the nervous parts followes which is called *Spasmus*. *Thirdly*, when there is an inflammation in the wound, which being extended to the nerves becomes a convulsion. *Fourthly*, when the ulcer is not well purged, or closed before its time, or when the orifice

orifice of the wound is too narrow, as in the pricking of a nerve; for then the sharp putrefaction being retained vellicates the nerves, and excites a convulsion. But this convulsion is deadly, because it insinuates by sympathy into the brain, the nerves being vehemently affected; and because putrid feculency retained in the wound is sometimes transmitted into the noble parts. And this Convulsion, saith *Galen in his comm. on this Aph.* is deadly, not as implying a necessary consequence of death, but as very often introducing it. Which *Hippocrates* himself seemed to acknowledge, who in his *Coac. progn.* proposing the same opinion, in the place of *deadly* inserts *dangerous*.

Convulsion or an hiccough after much profusion of bloud is bad. Aph. 3. Sect. 5.

Convulsion followes an immoderate loss of bloud, either when the veines and arteries are robbed of that due proportion of bloud which they should contain, and being empty are contracted, and being contracted contract the nerves; or because the veines exhausted attract from the neighbouring parts, demanding mutual courtesie, and so being dried with long profusion of bloud, seek aliment from the nerves, which forceth the exsiccated and contracted nerves to a convulst retirement to the fountain head, as it were to derive help from it; or else because the veines and arteries being immoderately exhausted, hurry away not onely the bloud but all the spirits from the extreme parts, whence the nerves are suddenly refrigerated; hence ariseth an extemporary, not a long convulsion, not proceeding from a preternatural cause, but rather produced by the action of nature, and endeavouring to hinder the detriment of this inanition: therefore we said before that a convulsion upon a flux of bloud was not alwaies deadly, though dangerous, because no convulsions caused by inanition wants danger.

Convulsion or an hiccough upon a superpurgation is bad. Aph. 4. Sect. 5.

In superpurgation not onely the useless but the useful humors are evacuated, therefore the convulsion which succeeds it is by inanition, and therefore dangerous. So *Aph.* 1. *of the same Section. Convulsion upon hellebore is deadly*, because of the immoderate purgation which succeeds the assumption of hellebore.

Convulsion and desipience after watching is bad. Aph. 18. Sect. 7.

Watching, saith *Galen in his comm.* is one of those things which do most evacuate and dry, and so cause a convulsion by siccity: and besides, because by long watchings the bloud is made more bilious, and by consequence more fit for the stimulation of the nervous parts.

Cold. *Those feavers in which are daily colds have a daily solution.* Aph. 63. Sect. 4.

It holds not onely true in quotidian, but in tertian and quartan recourses, that feavers are resolved by a precedent coldness; and hence we collect that there is no danger in coldness of intermitting feavers, and that it gives no cause of fear.

Coldness in continual feavers happening on a critical day with the precedent signes of concoction, and a remarkable evacuation following, is healthy.

Good evacuations following such colds are copious sweats, vomits, dejection of the belly, or flux of bloud, by which feavers are either wholly taken away, or much remitted, of which *Hippocrates Aph.* 58. *Sect.* 4.

A solution of a burning feaver is caused by supervening coldness.

Which is thus to be understood, *viz.* if it happen with the mentioned conditions. So in *Hipp.* 3. *Epid. Sect.* 2. *ægr.* 5, *Cherion Demenetus* his guest, was taken after a drinking match with a great feaver, on the third day with an acute feaver, trembling of his head, and most of all his lower lip; a while after he

was

was cold, convulst, was fond in all, passed the night with trouble; on the fourth he had some quiet, slept a little, talked. On the fifth day he was troubled, all exacerbated, he was fond, passed the night with molestation, slept not. On the sixth day in the same condition. On the seventh day he was extreme cold, taken with an acute Feaver, sweated all over, was judged; this man all along had bilious dejections few and sincere from his belly; thin urine, well-coloured, having a cloudy *enæorema*. About the eighth day his urine was better, and more coloured, having a white small sediment; he was in his senses, without a Feaver, he intermitted. But about the fourteenth day an acute Feaver surprised him, and he sweated. On the sixteenth he vomited bilious matter, yellow, & somewhat copiously. On the seventeenth he was extreme cold, and seised by an acute Feaver, he sweated, was without a Feaver, and was judged: his urine after his relapse and Crisis was of a better colour, having sediment; neither was he fond in his recidivations: on the eighteenth he was a little hot, thirsted, had thin urine, cloudy *enæorema*, was somewhat disipient: About the nineteenth he was without a Feaver, was pained in his neck, had sediment in his urine, on the twentieth was perfectly judged. In this sick person cold first happened on the third day to no purpose, as well because that day is seldome decretory, as for that there appeared not any signes of concoction, neither followed there any excretion; and so all the before proposed conditions of good cold were wanting; but the cold happening on the seventh day was healthy, because it appeared on a critical day with the precedent signes of concoction: for his urine was indeed thin, and of a good colour, having a cloudy *enæorema*, with copious evacuation, for he sweated all over; therefore on the eighth day which followed the Crisis, he was without a Feaver, yet the disease was not wholly taken away, but very much diminished: for we said before, that by such colds Feavers were either taken away, or very much diminished; and the morbifick cause being not wholly driven away by the mentioned sweats, he relapsed, which on the seventh day a cold again followed, in company with the aforesaid conditions, *viz*: sweats, and concocted urine: therefore his Feavers left him again, and he was on the twentieth day perfectly judged. That is also observable in this history which is remarked by *Hipp.* in both colds, which happened on the seventh and the seventeenth day that the Feaver was much inflamed, for in both places he saith, *he was cold, and taken with an acute Feaver*; whereas in all Critical cold the more the body is heated, the better and more perfect judication followeth, for this declares nature strong, and to operate powerfully the exclusion of the morbifick matter.

Colds, after which the body is not at all or very little heated, are bad.

For they signifie nature to be in a languishing condition, and unable to make head against the morbifick cause, whence *Hipp. in* 1. *Prorrhet: refrigeration not resuming heat after coldness is bad.* For that as *Galen in his comm.* writes, denotes an extinction of heat. Which *Hipp.* also observed, in 3. *Epid. Sect.* 2. *ægr.* 12. Where a woman on the seventh day was extreme cold, was taken with an acute Feaver, much thirst, jactation, about evening sweated all over cold, her extreme parts were refrigerated, she was no more hot, and again at night was extreme cold; on the seventh day she was not reinvested with heat: on the fourteenth day she dyed.

If a coma succeed a coldness or trembling falling on a Critical day, death is to be expected.

Coldness happening not on a Critical day, or that which none or a bad evacuation followes, is pernicious.

So in the woman mentioned coldness often appeared, even on not Critical dayes

daies without any excretion, or cold sweat, which is a bad evacuation; so again *History the eleventh. Section* 1. *book* 1. *Epid.* The wife of *Dromeada* was extreme cold on the third day with an universal but a cold sweat; on the sixth again she was extreme cold with an universal sweat, yet coldness of the extreme parts, fondness, convulsions followed it, and she died the same day, because that coldness happened not on a critical day, but on the sixth day, which by *Galen* is termed tyrant; so that *Hipp.* deservedly said, *Aph.* 29. *Sect.* 4. *If coldness happen the sixth day to febricitating persons, an hard judgement followes.* Yet it may be objected, that *Larissea*, a maid whose history we find in 3. *Epid. Sect.* 3. *ægr.* 12. was on the sixth day, upon a coldness which was seconded by a copious flux of bloud, and universal hot sweat, perfectly judged; To which we *must answer* with *Galen in the comment.* that this is one of those rare examples in which *Hipp.* observed judication to be sometimes made on even daies, which so rarely falls within the compass of example, that it will no way disorder the common method of good Crises. To this adde, that her months then first flowing from her were very advantageous for the solution of the disease.

If coldness do happen, without the intermission of the Feaver, the sick person being now infirm, it is deadly. Aph. 46. Sect. 4.

Galen in his comment. saith, that it signifieth not the same to say if it shall happen, and if it do happen; for the word *shall happen*, denotes one assault of cold, *do happen*, many: therefore upon cold happening once we may sometimes presage good, sometimes bad, as appeareth by the precedent theorems; but for cold to happen often without any deficiency of the Feaver, being otherwise not good, is in infirmity more pernicious; for if any evacuation follow the coldness which causeth no intermission, both conduce to a mans dissolution, as well because by reason of imbecillity the body cannot bear the agitation of the cold, as because the strength is by evacuation dissolved; but if coldness alone happen without the attendance of evacuation, it is both waies bad; for as a bad cause it tries the strength of a man, and is a bad signe, shewing his imbecillity, which did usually evacuate the noxious humors in colds, but now it is not able.

Coldness often coming in a long disease, or rather shakings without any order or type, signifie an internal suppuration. Hipp. in Coac. *Or they may signifie plenty of depraved humors, by which sharp vapors are usually elevated.* See Hipp. 1 Coac. Apn. 10. 13. 16.

Shakings frequently appearing in the beginning of acute Feavers are bad.

For they shew a very great pravity of humors, vellicating the sensible parts, and the infirmity of nature spending her labour in vain to move the humors. Such shakings do usually appear in the beginning of malignant and pestilent Feavers.

Frequent tremblings of the loyns, with a quick return of heat, are dangerous; for it signifies a painful suppression of urine, and for it to sweat out there is perillous. 1. Coac. Aph. 18.

For it signifies an inflammation of the *spinalis medulla*, or the membranes thereof, which parts by the violence of preternatural heat are scorched, and by the want of native heat they are refrigerated, as it happens in a sudden and frequent mutation of the parts into both. This also is not seldome found in an Empyema; but the suppression of urine followes, because by frequent cold the native heat of the bladder is extinguished, and so its expulsive faculty destroyed, and sense of irritation lost.

Shaking after sweat is not good. Aph. 4. Sect. 7.

Iudicatories which judge not are bad; so sweat breaking forth on a Critical day,

day, if it be not beneficial to the ſickperſon, but ſhaking followed it, is a bad ſigne; for it ſhewes that either the uſeful humors onely were evacuated by ſweat, and the vſeleſs and copious keep their ſtation; or that a part onely of theſe depraved humors was evacuated by ſweat, but the reſt dwell within, and vellicate the ſenſible parts, and ſo cauſe ſhaking. It is therefore evident that either nature is ſo weak that ſhe cannot rid her ſelf of the morbifick matter, or the humors ſo ſtrong that they give nature the foile.

Sternutation. *It is obſerved that if a ſick man ſneeſe onely once, that he will yeild up to the ferocity of the diſeaſe; but if he ſneeſe twice, the diſeaſe will loſe the day, and he recover. But the contrary is noted in women, if any of them dangerouſly ſick ſneeſe twice, this is deſtructive and exitial; if the ſneeſe be once, it is an healthy ſign.* Foreſt. obſer. 487. *diſtillations of the head, and ſneeſings precedent or ſubſequent in the diſeaſes of the lungs, are bad. But in other, even exitial diſeaſes, ſneeſings raiſe hopes of ſolution.* Hipp. 2. progn. chap. 16.

In a phthiſis, pleuriſie, and peripneumony, by that concuſſion of the brain ſneeſing, the parts of the breaſt are lacerated and violently torn, which increaſeth much the inflammation, and ſo there is no vacuation of the morbifick matter. But in other diſeaſes the morbifick cauſe may be diſſipated and diſpelled by the ſtrength of nature ſallying upon it by that violent motion; therefore ſneeſing ſignifies that nature reſumes ſtrength, and is excited to expulſion, whence we may conjecture that it is the beginning of a recovery. *Galen in his comment on this place* affirms, that ſternutation without rheume in the declination of a diſeaſe, or after the ſickneſs is paſt, is alwaies a good ſign, though the ſickneſs be pernicious.

Sternutation happening to a woman in hyſterical fits, or when ſhe brings forth with difficulty, is good.

Sneeſing is very commodious in hyſterical ſuffocations, difficult labour, and retention of ſecundines, both as a ſigne and as a cauſe; as a ſigne, becauſe it ſhews that nature is mindful of her proper motions, and that being before dulled, ſhe is now excited and revived, becauſe ſhe caſts out ſome ſuperfluity; as a cauſe, for that by vehement concuſſion and fervour it partly rouſes up nature, partly cauſeth excretion of thoſe things which adhere to the parts of the body.

Vital actions. *Good and eaſie reſpiration conduceth much to health in acute diſeaſes.* Hipp. 1. progn.

Reſpiration. For as *Galen* inſtructs us *in his com.* good reſpiration ſignifies that the breaſt, heart, lungs, ribs, midriffe, and all the parts ſubſervient to ſpiration are in good caſe. And when they are ſo, we need fear no danger from an acute diſeaſe, unleſs it be malignant and peſtilent. For ſuch feavers do often as it were ſurpriſe us by an ambuſcado, ſo that we cannot be ſenſible of any injury offered to reſpiration, though in their progreſs they are deadly affections.

When in a not intermitting Feaver difficulty of ſpiration and deſipiency happen, it is a deadly ſigne. Aph. 50. Sect. 4.

Becauſe the two grand Patrons of life, the heart and brain are vehemently hurt, and ſympathize to deſtruction: but both paſſions, *viz.* deſipience, and difficulty of ſpiration, muſt laſt long that they may be called mortal; for both ſometimes do happen healthfully in a critical perturbation.

Great and unfrequent reſpiration in an acute Feaver is very bad.

For this ſhews a fondneſs either preſent or imminent; for the minde being imployed in entertaining the multitude of ſpecies repreſented in fondneſs, tranſfers another way the faculty, moving the muſcles of the breaſt, ſo that there paſſeth no reſpiration, unleſs upon the inforcement of abſolute neceſſity, which cauſeth it to be unfrequent; but the magnitude thereof doth ſatisfie for the rarity.

So

So it falls out by the same reason that melancholicks and lovers have not seldom such great and unfrequent respiration, because being fixt in deep meditations they forget to breath. But the danger of this great and rare respiration in acute diseases may be gathered out of *Hipp.* 1. *Epid. Sect.* 1. *Ægr.* 2. Where *Silenus*, who died on the eleventh day, had to the end respiration great and rare. So *Ægr.* 11. *of the same Section.* The wife of *Dromeada* on the first day had an hypochondriacal pain, horrid, unquiet; on the following daies she slept not, her respiration was rare, great, and quickly drawn: again, on the sixth day in the morning she was extreme cold, and speedily grew hot again, sweated all over, her extreme parts were cold, she was fond, her respiration great and rare; soon after convulsions began from her head, and she suddenly died.

Great and frequent respiration is dangerous.

For this denotes a great inflammation, and putrefaction next neighbour to the heart, and the adjacent parts, which wanting much ventilation, causeth great and frequent respiration.

Small and frequent respiration is dangerous.

For this signifies, by the testimony of *Hipp. in his Epid.* the pain of some instrument, so as the animal faculty, in commiseration of the pain, will not suffer those parts which are above the diaphragma to be much dilated, that the pain may be the less, and the motions violated. It therefore causeth small respiration. But because this small respiration cannot afford sufficient ventilation to the kindled inflammation, neither is therefore forced to make up that which is detracted from magnitude. But this pain causing such respiration, is produced by inflammation, abscesse, ulcer, or copious and crude humors, all which threaten danger.

In feavers, offending breath is bad, for it signifies a convulsion. Aph. 68. Sect. 4.

By offending breath he understands interrupted or intercise breath, which breaks off abruptly in the middle of respiration. And this may happen as well in inspiration, and is by *Hipp.* termed double, intro-revocation, as it were super-inspiration, which frequently happens in crying children; as also in expiration, but more seldome, and it is called by *Hipp.* offending spirit, when it is conveyed to the exterior parts. This aphorisme is to be understood of both, *viz.* that it signifies in feavers a convulsion; because the muscles and nerves prepared for convulsion do so move the breast, which dispositon being increased, and overspreading more parts, a manifest convulsion seiseth on the man.

In acute passions accompanying a Feaver luctuous sighings are bad. Aph. 54. Sect. 6.

This aphorisme is in this like the former, because that by sighing we understand that interrupt and reduplicate respiration which was before explained. But now this respiration is most commonly worse and deadly, when it is luctuous, that is, when it is sent forth with some kind of lamentation and groning; for it signifies a kind of a dolorous disposition, or rather plenty of atrabilary humor, which inducing a kind of sadness, doth force such a groning to proceed from sick persons, though unwilling.

Nocturnal dyspnœa in a Chronical disease threatens a dropsie. Plater.

Respiration proceeding most through the nose, in which the gristles of the nostrils are moved, is pernicious.

For this signifies a total infirmity of strength; for the disease having now made a large progress, and the diaphragma being insufficient for respiration, the intercostall muscles come in as aiders, and if neither these also be sufficient, those cartilagoes are by nature diducted, endeavoring to attract more air: but this endeavour is frustrated no less then hiation in dying persons.

Cold ſpiration in acute diſeaſes denotes the proximity of death.

For this ſhews an extinction of innate heat, and the conſumption of primigenious moiſture by ſome incendiary heat.

A great, vehement, and equal pulſe is uſually in any diſeaſe healthy.

Pulſe. For this ſignifies the ſtrength of the vital faculty, by which the reſt are ſuſtained, ſo that the morbifick cauſe may eaſily be ſubdued.

An inconſtant, unequal, and languid pulſe denounces a ſad event.

For this ſignifies a great plenty of depraved humors, which by diſturbing nature, cauſe this inequality of pulſe. To which if an infirmity of the ſtrength be added, which is collected by that languid pulſe, it cannot ſhake off this heavy burden.

A ſmall and frequent pulſe, ſuch as a ſoft and mutilated one, is deadly.

For this ſignifies a creeping defect, and ſoon after ruinous collapſion of the ſtrength.

Intermitting, or internident pulſe is pernicious.

Gal. 2. of præſag. by pulſe affirmeth, that with an intermitting pulſe many old men and children do eſcape; but that his experience could never inform him of the eſcape of any young man; and the reaſon of this is, becauſe in young men it declares a wide receſs from a ſtate of ſalubrity, for they by reaſon of the validity of their ſtrength fall not into ſuch affections but by a potent cauſe, which is ſo inſuperable that it forceth a ſick perſon to ſubmiſſion. But old men and children are affected by a ſmaller cauſe, yet ſuperable with more eaſe: yet experience ſeems to be antagoniſt to the opinion of *Galen*, there being very few Phyſicians who have not known ſome young men eſcaping upon ſuch intermiſſion of pulſe. But leſt the authority of *Galen* ſhould be violated, we thus defend it, ſaying, that the intermitting pulſe is cauſed two waies, either when it intermits equally, ſo that between two intermiſſions, the number of pulſations is perpetually the ſame; and this intermitting pulſe is alwaies deadly, of which *Galens* opinion is to be underſtood: or when it doth unequally intermit, and then the ſick perſons may eſcape. An equal intermitting pulſe denotes the conſtancy of the morbifick cauſe, and its ſupereminency over nature.

Pulſes in Feavers like the pulſes of perſons in health are dangerous.

For they ſignifie a malignant and peſtilent feaver, in which they uſually happen, as *Galen* by experience taught 3. *of preſag. by pulſes*, and according to his mind ſuch pulſes proceed from this, that in ſuch feavers, eſpecially more malignant ones, either the ſubſtance of the heart is too much heated, and the humors therein contained too cold; or on the contrary, the ſubſtance of the heart is too cold, and the humors too hot; which contrarieties compoſe the pulſe to a kind of ſymmetrical order. Or truly we may ſay, that in the beginning chiefly of a malignant and peſtilent feaver, the pulſes do appear almoſt connatural, becauſe the heart is rather affected by the poiſon, then an hot diſtemper, which cauſeth theſe notable mutations in the pulſe: though in the progreſs of a diſeaſe the pulſe doth uſually appear frequent, ſmall, weak, and diverſe.

A Corollary.

Natural actions. It may here ſuffice to take notice of the chief and in practice more frequent differences of pulſes. The reſt may be found in *Galen* treated at large in his *books of preſaging by pulſe.*

A good and laudable appetency in diſeaſes is healthy.

That appetency is to be counted good and laudable which comes nigheſt to the

the appetency of persons in health, and is most like it, which according to the mind of *Hipp.* is best. *Aph.* 33. *Sect.* 2. *To be in any disease of a sound mind, and well disposed to things offered, is good.* For hence we collect that the natural faculty, and the parts subservient to it, the ventricle especially, is well disposed.

Appetency wholly dejected in a disease is very dangerous.

For this shews a great deviation from natural state, and is caused, as *Galen in comment. on* 3. *Epid.* teacheth us, either from depraved and malignant humors, gathered about the orifice of the ventricle, or from the extinction of the faculty it self, whose duty it is to know the want of aliment, and so consequently to desire it. So *Hipp. in* 1. *Epid.* of pining persons dying in the fury of an epidemical disease, saith, *That they nauseated all meat, and thirsted not.* So likewise *Galen in his comm. on* 3. *Epid.* affirms that he hath seen many assailed by a pestilent disease, who refused all meat, and died; yet some, as he averrs, stronger persons, forced themselves to an assumption of meat offered, survived. So in *Hipp.* 3. *Epid. Sect.* 1. *Ægr.* 2. *Hermocrates*, who on the twenty seventh day dyed, all the time of his disease was averse to meat, nor had appetite to any thing, and on his last day he could not taste any thing. And *Sect.* 2. *of the same book. ægr.* 6. The daughter of *Eurianax* all the time abhorred meat, nor desired any thing; not thirsty, nor did she drink any thing considerable; and of this disease she did not much survive the twelfth day.

In a long disease abhorrency of meat, with sincere dejections, is bad. Hipp. Aph. 6. Sect. 7.

Loathing of meat being by it self a bad sign in long diseases, (for in those who are like to escape the danger of such diseases a contrary affection doth usually happen, *viz.* an earnest appetency of meat) if sincere dejections follow it, they give cause of a far worse presage: whereas by sincere dejections *Hipp.* understands those which are not mixt with watrish humidity, when the humor alone is dejected, destitute of its serum, whether it be bilious or melancholick: for such dejections demonstrate that all the native humidity is scorched by feaverish heat.

In long diseases of the intestines, abhorrency of meat is bad, and in company with a feaver worse.

A dysenteria is caused by sharp humors exulcerating the intestines, first gleaning away the outermost superficies, but in progress oftimes causing more deep and putrid ulcers, in which time chiefly the ventricle also sympathizing with them, doth not well perform concoction: which compassion more and more creeping upon the superiour parts, when the mouth of the ventricle is also affected, then sick persons are offended with meat. They do indeed from the beginning sometimes loath meat, because of bad humors flowing from the liver, by which the intestines are abraded, especially when these humors have obtained a bilious nature, for the overflowing part of them is conveyed to the mouth of the ventricle. But if this chance to fall out in long diseases of the intestines, it signifies that the ventricle is as it were mortified by compassion, in which, appetency, the necessary business of life, is wholly lost. But if a feaver accompanied with inappetency succeed the pain of the intestines, it is caused by one of these two, either putridity about the ulcers, or great inflammation; both of which is very exitious.

An intense hunger, boulimia, in diseases is bad.

For this depraved appetite is either the consequent of notable evacuations, which the sick persons doth in vain endeavour to make up by these great repletions; or of the acrimony of immense heat, which like a furnace consumes the fuel of aliments, and reduceth them as it were to ashes, as may be noted in many lean hecticks; in whom also this boulimia often happens, by reason of the notable obstruction of the mesaraick veins, hindring the passage of the chyle to the liver whence

none, or very small nutrition is made, because that chylous matter finding its way through the liver blocked up, is corrupted in the intestines, and expelled by the belly, whence it is that such hecticks have a perpetual and immedicable flux of the belly. The parts therefore being abridged from these cates, always attract aliment from the liver, and the liver from the ventricle; which attraction causeth always this divulsion in the ventricle, and chiefly in the upper orifice thereof, whence hunger necessarily ensues. Or also that intense appetite depends upon the acid humors settled on the orifice of the ventricle, which perpetually vellicate that part, being more exquisitly sensible. Therefore this immense hunger, as it is rare, and portentous in diseases, so it can denounce no good, as *Aph.* 4. *Sect.* 2.

Neither satiety, nor hunger, nor any thing else exceeding the prescript of nature, is good. For this over-repletion always causeth very bad excrements, which are collected in sick persons, *as Aph.* 17. *Sect.* 2. *where meat is preternaturally ingested, it causeth a disease.* And *Aph.* 8. *and* 31. *Sect.* 2. *Eaters who profit not by it are in a bad condition.*

Appetency depraved, which is called a pica, or malacia, is in chronical diseases bad.

Such appetite, which wanders to absurd and aliene things, is familiar to women with child, by reason of the suppression of their months, which collects a multitude of depraved excrements, and causeth a reflux of them to the ventricle; and in these it is not very dangerous, because all those excrements in parturition are purged: but in chronical diseases it is very bad, as well in respect of the cause as the signe; for while they glut themselves with these cacochymous meats, the morbifick causes are multiplied; and it denotes a destruction of the temper of the parts and humors, by reason of which they desire things like them. Hippocrates therefore wisely observed, *Aph.* 31. *Sect.* 2. that if the sick person had an earnest appetite to meat something bad, we should sometimes give way to such desire, but with such moderation, that by reason of the quality or quantity it may not aggravate the disease.

Thirst. *Thirst quenched in acute diseases upon no reason, is bad.* Hipp. 1. prorrhet.

For if there be no cause effecting this sedation of thirst, as a pituitous defluxion from the head irrigating the ventricle, it either signifies an extinction of native heat, or error of mind. For they who thirst, and rest insensible of it, are no less sick in mind, then they who are pained and feel it not. This theorem is confirmed by the before proposed stories in the explication of dejected appetency.

An inexhausted thirst which can be satisfied with no drink, is bad.

For this shewes a great dyscrasy, and very intense scorching of the internal parts, or consumption of the primigenious moisture; so in *Hipp. in* 1. *Epid. Sect.* 3. *ægr. Philiscus* was among other symptomes very thirsty, and dyed on the sixth day. So likewise 3. *Epid. Sect.* 3. *ægr.* 3. *Pythion* in the whole course of his disease was troubled with very great thirst, and on the tenth day dyed.

A very depraved thirst, hankering after absurd liquors, and such as are not fit to be drunk, is bad.

There are some sick persons found, who are not refreshed by water, syrup, tempered wine, or any such usual liquour, but desire strong drinke, disagreeing both with the disease, and their nature; for instance, if they desire to drink vineger, juyce of limmons, aquavitæ, or any other liquor not convenient to drink. And they who are thus affected are in very great danger of their life, because nature is now so far run beyond her bounds, that she cannot again retire to a convenient state.

If any in a troublesome Feaver have an hiccough, the disease is very bad. 1. Coac. Aph. 47.

For

For this hiccough is caused by sharp and malignant humors vellicating the interior tunicle of the stomach, and stimulating the expulsive faculty thereof; and Valesius saith that he never saw any person saved, whom being extenuated, and taken with a burning or malignant Feaver, an hiccough surprised. So in *Hipp.* 3. *Epid. Sect.* 2. *ægr.* 12. a woman on the twelfth day was troubled frequently with hiccoughes, and on the fourteenth dyed. Platerus observed, that an hiccough succeeding a burning Feaver, and persevering, is usually deaths nuntio: and in a semitertian Feaver he experienced it to be not deadly. But he observed it also to be deadly in a dysenteria.

An hiccough and redness of the eyes after vomiting is bad. Aph. 3. Sect. 7. These two signes if in acute diseases they succeed vomiting, and last for some time, are accounted deadly, because they denounce an inflammation of the brain or ventricle; which inflammation may not onely be the cause of the hiccough it self, and redness of the eyes, but of vomiting also; for if vomit were caused by sharp humors biting the mouth of the ventricle, and the tunicles thereof, those humors being expelled by vomiting, the hiccough and redness would cease; nor would any sharp vapour be conveyed to the eyes after vomiting, which should paint them in red. But when vomiting is not onely unprofitable, but also introduceth an hiccough, and redness of the eyes, it is infallibly true that those three, vomit, hiccough, & redness of the eyes, do depend upon the inflammation of the brain or ventricle. For the brain being inflamed squeezes out the bloud through the small veins of the eyes by reason of the copiousness of it, and effuseth it into the outermost tunicle of the eye which is called adnate; whence proceeds the redness of the eyes; with which the ventricle sympathizing by the nerves, which from the sixth conjugation make to the mouth thereof, is easily impelled to a vomit, and hiccough. The ventricle also inflamed induceth vomiting, and after vomiting an hiccough, and with an hiccough, a redness of the eyes, by a concourse of bloud too hot to the eyes, caused by a compassionative disposition which these parts one bear to another; which easily appears in the beginning of suffusions, and apparitions of images before the eyes, happening most usually upon the viliation of the ventricle. Whence *Hipp. in his book of the places in man* well, said that the eyes were much injured by vomiting. We have an example of this hiccough succeeding vomit in the mentioned history of the woman, in whom it is probable that an inflammation of the ventricle was caused by the affluxion of depraved humors to that part: for on the eighth day she vomited bilious, thin, yellowish matter; on the ninth thin, bilious; on the eleventh virulent, bilious, soon after she was extreme cold, her extreme parts were cold; at evening she sweated, was cold, vomited much, passed the night with disquiet; on the twelfth she vomited much black, stinking matter; she passed it unquietly, with frequent hiccough, and thirst: on the fourteenth day she dyed.

Hiccough upon an inflammation of the liver is bad. Aph. 17. Sect. 7.

An hiccough then succeeds an inflammation of the liver, as *Gal. in his comment. on this aphorisme* affirmes, when the inflammation is made worse and increased: for then a great inflammation in the liver is so far heightned, that it doth vehemently oppress the superior parts of the ventricle, so that induceth an hiccough; upon copiousness of matter also sometimes an inflammation or an erysipelas is produced in the ventricle; nevertheless a biting is caused by it imbibed by the tunicles of the ventricle.

Belching. *In lævities of the intestines, an acid ructation proceeding which before was not, is a good signe.* Aph. 1. Sect. 6.

A lienteria is most commonly caused by a cold distemper of the ventricle, by which

which the coction thereof is abolished, that the aliments are speedily excreted, before either their colour, smell, or any other quality is changed. But if in such a lienteria long contracted, an acid ructation succeeds, which before was not, it will be a good signe: for it hence appears, that the distemper begins to be restored, and native heat again excited, which by such a lienteria was so debilitated that it could not so much as attempt a mutation of the aliment. For though an acid ructation shews a notable refrigeration of the ventricle, yet to discharge some flatulencies, though acid ones, shews less refrigeration, then to send out none.

Excrements through the eyes. *If a sick persons eyes in Feavers or other diseases drop tears voluntarily, it is not absurd; but if not voluntarily, it is more absurd.* Aph. 51. Sect. 4.

Those are called voluntary tears, which spring from some manifest and external cause, as sadness, greif, and sometimes joy, which are not dangerous. But involuntary ones are either caused by inflammation of the eyes, or sharp fluxions into them, and these also are void of danger; or they proceed from a Critical perturbation, and do chiefly presage a Crisis by flux of bloud, which also threaten no danger, and are known to be such by the precedent signes of concoction, and absence of bad symptomes: or lastly, they arise from the resolution of the retentive virtue, which is in the corner, and other parts of the eye, and these are exitious, which *Hipp. in this aphorisme* mentions; and they are distinguished from the rest by the cavity, and extenuation of the eyes, and other symptomes which are their necessary train.

By the ears. *In a troublesome affection of the head, if purulent matter flow out of the ears, there is a solution.*

This theorem is spun from *Hipp. Aph.* 10. *Sect. 6. when the head is disturbed with pain or sounds, purulent matter, or water, or bloud flowing through the ears, or mouth, or nostrills, causeth a solution of the disease.* For these are the ordinary conveyances and passages, by which the brain doth usually unburden it self. But the chief and most troublesome affection of the brain is inflammation, which if it proceed to suppuration, and purulent matter be evacuated by the ears, which in this case is the more ordinary way, the consequent is the solution of the disease.

In children copious humidities issuing through the ears are healthy.

Such humidities are frequent in children, according to the experience of *Hipp. Aph.* 24. *Sect.* 3. and they are healthy, because in that age the brain being very moist, and abounding with excrements, purgeth it self healthfully not by the ears onely, but by other passages also.

The feculencies of the ears, which are naturally yellow and bitter, if they sweeten, or change colour, it is very bad. Hipp. 6. Epid. *Galen in his comment.* affirmes this to happen by the colliquation of the brain in acute Feavers; or we may say, that upon much debilitation of the native heat, these watrish humidities stream forth, which were contained in the brain, and being confused with those dregs they change the tast and colour of them.

Through the nostrills. *Bloud flowing well and copiously through the nostrills on a Critical day is healthy.*

For then this evacuation is caused by the good operation of nature expelling the morbifick cause: but we must diligently observe, how the signes of concoction proceeded, and whether there be any malignity lurking in the disease: because in malignant diseases such fluxes of bloud are not seldome unprofitable.

Fluxes of bloud too copious and vehement are very bad; for they cause convulsion.

For it sometimes happens, that nature oppressed with the copiousness of bloud, and moved to excretion, becomes irregular, and effects a supercrisis, which Physicians

Physicians are often forced to restrain.

Flux of bloud in the beginning of a disease is bad.

Because in the beginning of a disease no evacuation can be Critical, but is meerly symptomatical: yet it is not therefore deadly, but onely useless, and not commodious to the sick person: as it happened to *Pericles, in* 3. *Epid. Sect.* 3. *ægr.* 6. out of whose left nostril on the third day bloud flowed; afterward his Feaver was very intense, and persevered to the fourth day, in which by copious sweat he was judged.

A flux of bloud happening in a direct line to the part affected, is good; but on the contrary, bad.

In the inflammation of the liver a Critical flux of bloud is healthy, but with this caution, that evacuation be made through the right nostril; for if it proceed through the left, it will not regulate it self to that rectitude so much applauded by *Hippocrates*, and it will shew that nature upon a perturbation operates preposterously. So in the inflammation of the milt the bloud must flow through the left, not the right nostril.

Few drops of bloud distilling through the nostrills are bad.

For they signifie the imbecillity of nature, and malignity of the disease: for all excretions in acute diseases which are inchoate onely and not perfected, are very much disliked by *Hippo.* because the security is greater in those Feavers in which nature expells nothing, then in which it makes few and useless excretions; for then this argues that she is industriously labouring coction. To this adde, that if no drop appear, the benignity of the matter is declared, which is unable to provoke nature before the time. So in *Hipp.* 1. *Epid. ægr.* 1 *Phyliscus* on the fifth day had few drops distilling from his nostrils, and on the sixth day he died. And *Ægr.* 11. *of the same Sect.* on the fourth day some few distillations issued from the nostrils of the wife of *Dromeada*, and on the sixth day she died. Yet upon this signe we cannot positively assert death; for in 3. *Epid. Sect.* 1. *Ægr.* 2. He who lay in *Dealces* garden, had on the second day some few sincere effluxions of bloud from his left nostril, and again on the fourth few and sincere distillations out of the same nostril, and on the fourtieth day he was judged. Yet he struggled with a very dangerous disease, as appears through the whole relation of the story, therefore this distillation of bloud, if it portend not death, yet it shews very great danger of life, if it be accompanied by other bad symptomes. For this also is to be noted, *viz.* that a small excretion of bloud appearing in an indicative day, without dangerous signes antecedent or consequent, is so far from being dangerous, that it rather denounces that a Crisis will come the same way, as happened to *Meton, in* 1. *Epid. Sect.* 1. *ægr.* 7. who on the fourth day without the precedency of any dangerous symptomes, had twice a small effluxion of bloud out of the right nostril; on the fifth one larger out of his left, sincere; he sweated, and was judged, and fell to a recidivation; he escaped upon the copious and frequent profluxion of bloud.

By the mouth, spetting and sneezing. *Spettle white, even, smooth, not very thin, or crass, of a ready and easie excretion, and without any pain or much coughing, is healthy.*

For it denotes that nature overpowers the morbifick matter, and laudably concocts, and sufficiently expels it being concocted. For the mentioned qualities appearing in spettle are signes of very good concoction.

Spettle soon appearing in the beginning of a disease of the breast or lungs, is good. Aph. 12. Sect. 1.

For this discovers a rudiment of concoction, which if it proceed soon after the beginning of the disease, there is hope of a speedy solution.

Spettle

Spettle lightly red by the permistion of bloud and flegme, is healthy.

This spettle is expelled in a pleurisy, when nature changes the morbifick matter; for it doth by degrees extenuate it to liquation, and so the waies being freed, by which the vapour should exhale, the thinner part and most acceeding to vapor, steals through the rarity of the pores into the internal and neighbouring spaces, and is confused with flegme, whence upon coughing, and exclusion of spettle, the default of coction appears; and hence *Gal. comment. in 6. Epid.* termes these most gentle pleurisies.

Yellow spettle mixt with some bloud in the inflammations of the breast or lungs, expelled in the first invasion of the disease, is healthy and very commodious; but when the disease hath proceeded to the seventh day, or made a larger progress, it is less secure. Hipp. in Coac. and prognost.

In inflammations produced by choler and bloud, such spettle usually happens; which if it appear upon the beginning of the disease, it shews that nature doth partly unburden herself, whence proceeds a looseness in the part, and remission of pain, and so the beginning of sanation. But if this spettle appear after the disease hath made some progress, on the seventh, or eleventh day onely, it is a signe of less security; because the faculties requisite to cause an anacatharsis are oppressed by the disease, so that we cannot conceive hopes of a laudable operation: as also because the morbifick matter is more rebellious, the more thin and obedient part of which could not be thrust forth in the first daies: and again, for that by a delayed hesitation in the part, it hath insinuated it self to a settlement in the substance thereof, so that it cannot without more difficulty be removed.

All spettle is bad which doth not allay pain. Hipp. 2. progn.

All evacuations are to be judged good or bad as they redound to the benefit of the person: if therefore the pain be not mitigated by anacatharsis, it is undoubtedly bad: for either the matter immediately producing the disease is not ejected; or if any part of it be evacuated, it is supplied by new which hinders the diminution of the disease.

A small quantity of spettle, though concocted, if it be not expelled conformably to the disease, is bad.

Because no small quantity is Critical, and cannot cause any remission; this spettle therefore is in a peripneumony dangerous, according to *Hippocrates in Coac.* such as *Hipp.* observed 7. *Epid.* in the wife of *Euxenus*, who died of that disease.

To spet nothing at all in a pleurisie, or peripneumony, after some progress of the disease, is exitious.

Though nothing be expelled in the beginning of the disease, it is not so dangerous; but in the augmentation, or state, if there appear no spettle, it signifies the disease to be very crude, and shews the inflammation to be contumacious, and of difficult concoction. Hence *Hippocrates in Coac.* averred with good cause, that dry pleurisies, in which nothing was expelled by spettle, were most dangerous: and *Gal. 2. of Crisis chap. 10. when*, saith he, *a passion is exquisitely narrow, and confines as it were to it self the whole streams of fluxes, then it causeth deadly diseases.* And *in his book, of the times of the whole disease* he affirmes, that to spet nothing at all, with great pain, and difficulty of spiration, is destructive.

If spettle after appearance be suppressed, and the lungs being full boyle up in the throat, causing a ratling and ebullition, it is deadly.

For this either signifies a very high inflammation, which by scorching the spettle reduceth it to such a viscidity that it cannot be expectorated; but adhering to the cavities of the lungs, and obstructing them induceth a suffocation: or it shews

shews an exolution of strength, which cannot produce an anacatharsis; whence it is, that all those that dye of a pleurisie or peripneumony, when they stand at the brinks of the grave, are subject to such a ratling. Such a ratling *Hipp.* observed 7. *Epid.* in *Menon*, of whom he saith, *His arteries did leap with ratling*; and of the wife of *Theodorus*, *A kind of shrill asperity of the artery and breast, a noise and fluctuation of purulent matter*: and of the wife of *Polycrates*, *within about the artery and jaws there was an hissing*, or according to interpreters, *an unpleasant asperity*. In which, and many other persons in the same book recited, this symptome was to be imputed partly to the weakness of nature, partly to the copiousness and clammines of purulent matter, flegm, or some other humor. This being perpetually bad; and very much to be feared, yet it is extremely pernicious after the beginning of the disease, upon the languidness of strength: for it discovers that nature is so infirm, that she is not able to expel any thing, and so is suffocated; which also other desperate signes will evidence, which will be the necessary concomitants of it. But in the beginning it sometimes happens, that by reason of the copiousness and clammines of the humor it boyles in the throat, which humor being afterward concocted, and purged by spettle, that ebullition ceaseth. But that this is not pernicious will appear, for that there are other good signes without the company of any pernicious one, as happened in *Pisistratus*, of whom saith *Hipp.* he had a ratling in his jaws, but he bore the disease well, was of a sound mind, remiss heat, and excretion and the ratling came forth together. Lastly, in the paroxysmes of asthmatical persons, such a ratling, and that very intense, doth usually happen with an hissing, without any danger: which is diligently to be observed, lest we erre in prognostication.

White spettle and meerly pituitous in a pleurisy and peripneumony is bad.

Such spettle may deceive unwary Physicians, as much resembling that spettle which is excreted in a natural state, and so in its first appearance seems to promise health. Yet it is very bad, because it shews no expurgation of the humor which causeth inflammation, and so demonstrates the disease to be very crude, and extremely pernicious. Which *Hipp.* observed 7. *Epid.* in the wife of *Euxenus*, who dyed of a pleurisy; for she by spettle expelled a smal quantity of matter white and thin.

Spettle yellow, pale, or ruddy, appearing in healthy persons, whether it be bitter or sweet, shew the appropinquation of a Phthisis, and from thence death.

For such colours signifie choler lurking in the lungs, which in the spettle hath lost much of its amaritude, by the permistion of flegme, by the sweetness of which the acrimony of the choler is asswaged. In which Physicians may easily erre and be deceived, who are ignorant of the bilious humor lurking in the lungs; because that spettle, though it appear yellow, pale, or ruddy, they observe not whether it be sharp or bitter. Yet in those sick persons, the lungs being consumed, spettle bloudy or purulent is after expelled, and so they pine away. Of these *Galen speaks* 4. *of affected places, cha.* 9. in a context worthy notice, and so much conducing to this thing, that his words may deservedly be transferred to this place. *One*, saith he, *suddenly spet forth humor in colour much resembling liquid choler, viz. communicating of yellow and pale, and tainted with no acrimony, and so did daily send forth by spettle a greater quantity of it; afterward upon the surprisal of a slight Feaver, he begin to pine, so that he expelled purulent matter by excreation. After in some space of time, viz. of four months, he cast out small quantity of bloud with purulent matter, and so was more wasted with an acute Feaver, and often and again spet more, so that the spettle increased to a great quantity: the Feaver therefore more increasing, and the strength being debilitated, he dyed like those who pine. Again I saw another*

troubled with the same disease six months, and another longer. The first seemed in the beginning to be not very badly affected, but afterwards dangerously. But when we saw the other, we presently upon the beginning of the disease knowing the evil, endeavoured by a present medicine to afford help; and much more to the third. But though we took much pains to free both, yet no one could preserve either of these; for being now approximated to death, they spet forth putrid parts of their lungs. Thus *Galen*; but it affords cause of wonder, that upon the appearance of yellow or pale spettle, vacant of any sharp, bitter, or salt tast, men should be reduced to pining. But this is caused, for that by the mixtion of pituitous humor the tast in such spettle is rather occult then the heat; which flegme is contained in the pipes of the lungs, and is there mingled with choler, but choler so sharp and copious is gathered in the lungs, that by it they consume, putrifie, and pine away.

After spetting of bloud follows spetting of purulent matter; after spetting of that, pining; but upon suppression of spetting the sick persons die. Aph. 15. and 16. Sect. 7.

Spetting of purulent matter is not the necessary sequel of spetting bloud: for bloud often flows from the brains, gums, and throat without any detriment. So neither doth spetting purulent matter by the law of necessity attend that spetting of bloud which happens in a pleurisie and peripneumony; but this aphorisme is to be understood of that spetting of bloud onely, which proceeds from the lungs, by the erosion of that part, or the ruption of some vein dispersed through the substance thereof: for spetting of purulent matter, pining, and death, are the necessary consequents of this spetting of bloud. But this spettle for that it degenerates into purulent spettle, is distinguished from the before mentioned, because in it the spumous and very florid bloud is by cough expelled; all which conditions are not found in the other.

Green, eruginous, pale, black, sincere, or stinking spettle is bad.

The green, eruginous, signifie an high inflammation of heat, and plenty of eruginous choler. The pale is caused either by black choler, or extinction of heat. Black proceeds from the same causes, but much more powerful: for both a greater adustion, and refrigeration, or extinction of heat produceth out of paleness blackness. That spettle is termed sincere which proceeds from one humor, pure, and impermixt, and destitute of its serum, which serum is by heat consumed. The fetid signifies a great putridity overspreading the spirital parts: That therfore al these kinds of spettle are very bad, the causes now recited do sufficiently convince.

Spettle very crass, viscid, and glutinous, is in a pleurisie or peripneumony bad.

Because it discovers a great inflammation and heat raked up within, which incrassates that matter, and makes it viscid, so that it cannot easily be purged, and not without a molestious cough, and troublesome excreation, which is more detrimental then beneficial.

Viscid and glutinous spettle, with hoarseness, is very bad. 1. Coac. ch. 16.

Spettle simply viscid and glutinous is bad, as appeared by the *precedent theorem*: but if this spettle induce hoarsness, it shews that acrimony is joyned with viscidity, which by exasperating the artery causeth hoarsness. The worse therefore the matter is the worse affects it produceth: and so whatever pleuritical and peripneumonical persons expel such spettle with hoarsness, they are affected with a deadly disease. But in others free from such affections, such spettle with hoarsness, glutinous, and salsuginous, presage aphthisis.

Round spettle, or like hail in forme, is exitious.

For first round spettle is necessarily crass and viscid, and so, as we observed, vicious: yea it argues incoctible matter, which by a combustion being made too crass and viscid, is shaped into such a forme. Therefore whatever pleuritical

or

or peripneumonical persons eject such spettle, do soon after dy. So likewise without a disease such spettle demonstrates a phthisis, by the testimony of *Galen, comm. in 6. Epid.* Where he relates, that he saw in some persons free from any Feaver, such spettle, who in a long time seemed not to be affected, yet all of them after pined away with a phthisis: but that spettle which resembles the corns of hail, because it is round, is of a more solid consistence, and proceeds from a greater heat of the lungs, and so is a more certain demonstration of a phthisis. So *Gal. 4. of affected places, cha. 9.* shews the danger of this spettle in a remarkable story, in these words. *Besides I have observed another such like affection in the lungs: one troubled with a long cough, and spetting a small quantity of clammy purulent matter, expelled a fragment not unlike a little corn of hail, and bringing it to me shewed me it; and again not long after he brought another; whence he did conjecture that that clammy humor which he before usually spet forth was dryed and indurated to such a substance. I therefore gave him a medicine in his drink, which is helpful to asthmatical persons, and so it happened that he expelled lesser hail, after a longer interval then heretofore; nor could the affection in many years after be so mitigated but that at last he died. But this for the most part did in magnitude equalize vetches, though sometimes they seemed lesser, sometimes bigger. And so we have seen others to spet the like, who yet have lived many years after, some of which died upon some other cause; others by the affection of their spiritual instruments, though they sent forth no bloud.*

Froth. *Persons choked, lying in a deliquium, yet not dead, cannot be revived, if froth appear about their mouth.* Aph. 43. Sect. 2.

Froth owes its production either to vehement heat exciting many vapors, and mingling them with the saliva, as may be seen in things put to the fire, which boyl, and by ebullition send forth a spume; or it is caused by violent motion, which in the same manner confuseth flatulency with the watry substance; as is evident in the white of an egge upon long agitation, and in the sea by the vehement commotion of wind. They therefore who are inflamed by vehement anger, running, or violent exercitation, may have froth in their mouth without any danger, because it proceeds from a procatarctick cause. So likewise epileptical persons about the end of accession eject froth at their mouth, by reason of that violent and convulsory motion which by exagitation attenuates and dissolves that pituitous matter contained in the brain, by which the paroxysme was excited; therefore there is no danger in that neither, because it is the consequence of the exclusion of morbifick matter. But in those who are choked, whether by hanging, or drowning, or a troublesome quinsie, or apoplexy, froth appearing in the mouth is a very bad signe, and denotes a proximity of death; for it signifies the last struggling of nature, endeavouring by main strength to exclude the vapors contained in the lungs, with which it also forceth out some of the proper humidity of the lungs, and mingles it with the mentioned vapors.

By vomit. *Vomit mingled with yellow choler and flegme, which is neither very crass nor very copious, and hath those two humors exquisitely mingled, is good.*

Substance. For such vomit is not onely laudable in respect of substance, but of quantity and quality also. For of all excrementitious humors flegme and yellow choler are most gentle; but if being of an indifferent quantity and consistence, and well tempered together, they be expelled by vomit, this vomit is complete in all the conditions requisite to make a vomit good.

Bilious or pituitous vomits breaking forth in a critical day are good.

Vomits composed of both humors are not onely good, but those also which proceed from either apart, if it be the humor which caused the disease of the sick person. So in bilious feavers, critical effluxions of choler, or pituitous of flegme,

cause a solution of the disease, or at least promise very great hopes of health.

A spontaneous vomiting surprising one long troubled with a profluxion of the belly, is the solution of the disease. Aph. 15. Sect. 6.

For the morbifick matter is revulsed into the contrary part, and this revulsion signifies a refreshing of nature, and resumption of strength. For as a Physician labours the retreat of those things which flow into any part; so nature, when she begins to prevail causeth this recoile; as when upon surdity she causeth bilious dejections, so upon a flux of the belly she converts to vomiting. For when the intestines are troubled with a fluxion, it shews the power of nature, if she can turn the stream of this ill affected influxion into another part.

If bloud is conveyed upward, whatever it be, it is bad. Aph. 25. Sect. 4.

Bloud ejected by vomit issues from the ventricle, or liver, and discovers apertion, ruption, or erosion of some vein in those parts; such vomiting therefore is counted bad. And this *Hipp. in his Aph.* mentions; as also he speaks of bloud expelled by a cough, which is raised from the breast or lungs. Yet *note*, that some times bloudy vomiting is good and healthy, if it be critically performed, though this happens very seldome; yet *Galen* averres it, 7. *Meth. chap.* 11. 3. *of cause of sympt. chap.* 2. *and* 5. *of affected places chap.* 7. and we have seen sometimes a pleurisie in a strong young man to have been perfectly and healthfully judged by vomiting bloud on the seventh day. We also saw another who after a tedious sickness, being as it were pained with difficulty of spiration, upon a sudden emission of black bloud by copious vomits was freed. This aphorisme therefore must be understood with this distinction, *viz.* that the persevering and often repeated vomiting of bloud is bad: but if it happen once, and return again, and if the solution of any disease follow it, it is undoubtedly good.

Quantity. *Small and troublesome vomit in an acute feaver is bad.*

For it is not convenient that any thing decretory should be sparingly expelled; but such vacuations signifie either such a plenty of matter that nature cannot bear it, but expelleth some of it symptomatically; or the imbecillity of nature, in vain endeavouring to remove superfluities.

Quality. *Vomits variously coloured, composed of many humors, are bad.*

For they signifie that various humors are lodged in the body, which cause nature the more trouble, by how much more difficult it is to grapple with divers antagonists. For if it be a very uneasie taske to encounter divers kinds of aliments, how much more difficult and dangerous will it be to attempt to concoct and subdue various humors deviating from the prescripts of nature? especially in acute diseases, in which the time for skirmish is short, which should be very long that we might conceive greater hopes of the victory of nature.

Porraceous, eruginous, pale, black, or stinking vomit is deadly.

For such vomit signifies that porraceous, eruginous, or black choler are predominant in the body. But all these species of choler do usually produce malignant and deadly diseases: but if a stink be joyned to them, they signifie a notable corruption of humors, which will soon poyson nature. We find an example of eruginous vomit in *Hipp.* 3. *Epid. Sect. ægr.* 4. where *Philistes* on the first day vomited bilious matter, in quantity small, yellow at first, afterward much eruginous matter: on the fifth day in the morning he dyed. As also *Sect.* 3. *of the same book. ægr.* 4. where a phrenitical person on the first day vomited much eruginous thin matter, on the fourth he dyed: of black vomit we have an example *in* 1. *Epid. ægr.* 12. one who on the eighth day about evening vomited a little black, bilious matter, and on the eleventh dyed. Yet it may be *objected* that this signe is dubious, because the wife of *Epicrates*, as we read 1. *Epid. ægr.* 5. on the twentieth day vomited

ted a little bilious, black matter, and was perfectly judged without a Feaver on the eighth. We *must answer*, that that disease was so dangerous, and attended by such desperate symptomes, that it was a wonder how the sick party should escape, when it had held her eighty dayes. But it sometimes happens that some even most deadly diseases are beyond all hope of the Physician brought to an happy conclusion, which yet do not debilitate the judgements of art, which imply a common, though not alwaies a necessary consequence. Besides this it is worth animadversion, that such depraved humors are sometimes Critically expelled, though this be a rare accident. Lastly, of stinking vomit with a train of other bad qualities, we have an instance in 3 *Epid. Sect.* 2. *ægr.* 12. Where a woman on the eighth and ninth day vomited a little bilious matter, on the eleventh virulent and bilious, on the twelfth and thirteenth much black, stinking matter: on the fourteenth she dyed.

Sincere and impermixt vomits are in acute Feavers bad. 10. *Prorrhet.*

For sincere humor is not crude onely, but also incoctile, as excluding as well the act as the power of coction. *Hipp.* termes every humor void of mixtion, or all fervid and crude excrement not tempered with its serum, *impermixt*. Whose generation proceeds from the vitiosity of some part, or from heat and febrile inflammation, the aquous and serous part being exhausted; therefore in an acute Feaver it shews that a great inflammation is fuelled within, and most commonly by nature invincible.

In any disease if black choler be upward or downward evacuated, it is deadly. Aph. 22. Sect. 4.

Such excretion is deadly as a signe, and as a cause; for no excretion in the cradle of a disease can be healthful, and evacuation of any humor is bad before the signes of concoction. For this demonstrates that the cause is very biting and troublesome, or that the faculty is wholly languid when the œconomy of nature is thus disturbed, which concocts first, then segregates, and parts the useful from the useless, lastly expels. But when the peccant matter in this manner disturbing nature is very bad, we must think the sick person is deadly affected. But if in the progress of the disease black choler be expelled, the evacuation of it may be sometimes good, *viz.* if the signes of concoction appear with it.

They who are extenuated by acute or long diseases, or wounds, or by any other means, if they evacuate black choler, or as it were black bloud through their inferiors, they die the day following. Aph. 23. Sect. 4.

Extenuation signifies great debility, such dejection denotes a great disease, which soon destroyes the sick person so very infirme. When therefore such an evacuation happens to persons so extenuated, it signifies that nature now quite enfeebled cannot any longer contain those humors, but sets them at liberty, and excludes them through the inferiors.

Sincere dejections in acute diseases are very bad.

Hipp. termed those sincere dejections (as *Galen* saith *in Aph. 6. Sect. 7*) which are not mixt with aquous humidity, when the humor alone which is evacuated is dejected, whether it be bilious, or melancholick, or whether it represent the colour of a leek, or be that choler which is termed eruginous. For such dejections demonstrate that all the native humidity is scorched by febrile heat: which very much endangers the life. So in *Hipp.* 1. *Epid. ægr.* 2. *Silenus* on the first day expelled much bilious, sincere, spumous, deep coloured matter, on the fifth his dejections were sincere, bilious, smooth, fat; on the eleventh he died. Such dejections also happened in the daughter of *Euryanax*, *Pariw*, *Pithon*, and others who were affected with deadly diseases.

Fat and viscous dejections are deadly.

Fat dejections in acute diseases are caused, according to *Gal. comm. in text.* 22. *book* 2. *prorrh.* as often as the fat is melted by fiery heat. But when they are viscous also, they signifie not onely a colliquation of the fat, but also of the solid parts of the body, whence they necessarily pine. But because fat and viscid dejections are sometimes generated by fat and clammy aliments, as also by flegme made viscid by much heat, they are so to be distinguished; that those which proceed from aliment or flegme are more copious, and stink not; but those caused by colliquation are few, and very fetid, and as *Galen* will have it, stink is the chief sign of colliquation. These fat dejections therefore signifie a great inflammation, and certain destruction, if they be attended with any bad signes, and the more if the disease be great and vehement; as in a more gentle disease they presage diuturnity instead of destruction, such as *Hipp.* observed in him who dwelt in *Dealces* garden, of whom he saith, that on the sixth day his dejections were black, fat, spumous, viscous and fetid, who was not judged before the fourtieth day. But they proceeded not from the colliquation of the solid parts, but from fat and viscid humors putrified, for they were many. But these which are caused upon the pining of the solid substance of the parts are wholly exitial, such as *Hipp.* observed in *Silenus*; as we noted in the *precedent Theorem.*

Spumous dejections in acute Feavers are bad.

For they denote either an inflammation of heat, by which the boyling excrements contract a spume, as we see in a kettle by the force of heat; or that flatuous spirits are mingled with humor, as appears in the froth of the sea upon an insurrection of windes: but both is bad, because the one argues a melting heat, the other an unequal perturbation. Yet they are worse which denote a melting inflammation of heat, and they are known by an acute feaver, and expulsion of spumous excrements somewhat hot, as also because they are sincere. Of these we may read *in* 2. *Prorrhet. A spumous efflorescence in bilious and sincere dejections is bad.* But those which proceed from the commixtion of flatuous spirit are also bad, because they declare a crudity in the excrements.

In acute diseases, if things assumed be cast forth unaltered, it is deadly.

Such a lienteria shews that the natural functions in the ventricle are abolished by the very great exolution of native heat, which denounces the proximity of death, as appears in *Hipp. in* 3. *Epid. Sect.* 3. *Ægr.* 15. in the wife of *Dealces*, to whom on the seventeenth day happened a turbulent irritation in her belly, after her very drink flowed from her, and on the twentieth day she died.

Wormes. *In the beginning of a disease if wormes creep forth it is bad, either alive or dead, chiefly if they come unattended with feculency.*

For alive they signifie a very great crudity, or penury of aliment; and dead, they denote great putridity by which they are killed.

Wormes in the declination of a disease, expelled with excrements, and upon appearance of concoction, is good.

For this shews that nature hath power over the excrements.

Quantity. *Dejections of the belly in any disease too copious are bad. But if when they be expelled the belly do something swell and increase, they are very bad.*

Too copious a flux of the belly doth much resolve the strength and debilitate nature, as *Hipp.* mentions *in* 2. *progn.* But if there be an universal and frequent dejection, it imminently endangers a defection of life: which he also confirmes *in Coac. prenot.* in these words: *A liquid dejection, and flowing out copiously, and at once, and*

Here insert the Table marked folio 183.

and by degrees, is bad: for one introduceth wakings; the other exolution. But if to a copious dejection a swelling belly be added, it signifies a great exolution of native heat, whence many crudities and flatulencies are generated, whereby the belly swells.

A very small looseness, or such a one as stops as soon as it begins, is evil.

For we have shewn in another place that all evacuations that proceed in a little quantity, are of small moment, both because they do not suffice to take away the cause of the disease, as also because they signifie either a great multitude of humors oppressing the strength of nature, or else a great weakness of nature it self. Besides, if a looseness do stop as soon as it begins, it shews that the evil humors which began their course through the guts, are turned another way, where they may do more mischief. Of these speaketh *Hippocrates* in these words *in 7. Epid. The bellies though by chance they were loosened, yet presently were perniciously bound up.* Hence it proceeds, that those fluxes and dysenteries which are suddenly stopped, are wont very much to endanger the life of the patient.

The Quality. *A watry looseness which begins with an acute disease, and tarries with it, is evil.*

For it signifies an abundance of the matter causing the disease, or the malignant quality thereof, which forceth nature to such an immature, and unseasonable flux. Thus *Hippocrates* speaks *in* 3. *Epid. Sect.* 2. *ægr.* 8. of a young man whose belly flowed the first day with much cholerick and thin matter: the second day followed a greater flux of matter more indigested, and the seventh day he dyed. *Ægr.* 10. *the same Sect.* he speaks of a woman whose belly flowed the first day with much thin and crude matter: the second day with much more of the same, and the seventh day she dyed: her belly remaining moist with much thin and undigested matter all the while.

A looseness of the belly happening to one taken with a pleurisie, or a peripneumony, or inflammation of the lungs, is an evil symptome. Aph. 1. Sect. 6.

For when the organs serving for respiration are vehemently afflicted, the liver and the stomach are thereby also strongly affected: so that they being weakened there follows a loosness of the belly, which for that reason uses to be mortal. Therefore to make good this symptome, the pleurisie or inflammation of the lungs ought to be exceeding vehement; which *Hippocrates* seems to intimate, as *Galen* observes in his Comment upon this Aphorism, who doth not simply say that a looseness is evil in a Pleurisie, or inflammation of the lungs, but addes the words, *being vehemently taken with*; as if he should have said, that a looseness of the belly seising upon a person detained and vexed with such diseases, was an evil symptome. Because a looseness of the belly happens to such men through a weakness of the liver, that is not able to draw the nourishment to it, nor to turn it into blood, the stomach also oftentimes corrupting the said nourishment; but in a moderate pleurisie, or inflammation of the lungs when a looseness doth happen, it may profit much by way of evacuation, specially if the disease be so gentle, that there is no great fear of any danger, also if there do appear certain signes of concoction both in the urine and spettle. Sometimes also at the beginning of a pleurisie or inflammation of the lungs, the foresaid matter diverts it self to the guts, and causes a wholesome and seasonable flux.

For one that is troubled with an Opthalmia to have a looseness is a good signe. Aph. 17. Sect. 6.

By such a flux of the belly in this case the humor is drawn down to the most distant opposite parts, and from the upper parts to the lower; which is therefore of all things the most efficacious and profitable.

The

The liquid excrements of the belly growing thick in the progress of the disease, betoken well.

All concoction is perfected by thickening, and those things which are concocted become more thick; and therefore excrements which at first being thin and liquid, do afterwards grow thick by degrees, do shew that nature is strong that performs her work so well.

White fluxes appearing in any disease are evil.

For the fluxes of white matter are caused by undigested meats, as white bread, milke, Ptissan, or unhusked Barly, Rice, Almonds, and such like: or as *Galen* teacheth *in* 2 *Progn.* when the choler can by no means come to the intestines; which happens either through an obstruction of that pipe which conveyes it from the bladder of the Gall to the Guts, as comes to pass in the yellow jaundise; or because that the Choler is drawn upward with the blood by the heat of the head which is inflamed: or lastly, those white fluxes are caused by a melting of some soft and new made fat. But these are few, slimie, and of an evil savour. However they happen, unless it be those that take the white colour from the colour of the meat, in acute diseases they are not a little to be condemned, but most of all those which happen when the brain is inflamed: of which *Hippocrates in Prorrhet.* In those who are phrenetick a white flux is naught, because all the choler is then drawn up into the brain. Moreover, in cholerick feavers white fluxes are evil, because the excrements ought to answer to the cause of the disease, and therefore they signifie either an obstruction of the pipe through which the choler passeth to the guts; which obstruction for the most part is mortal to such as are not in feavers; of which *Hippocrates* speaks *in Coac. Persons troubled with the Kings evil, whose feculencies flow forth in a great quantity dye, and in them a white flux proceeds:* Or it signifies an inflammation of the brain, and the upper convex part of the Liver, which draws all the choler to them. Lastly, we have shewn that little, slimy, and ill-smelling fluxes are evil, because they denote a mischievous colliquation or melting of the fat.

Vitelline, eruginous, green, pale, black, variously coloured, or very ill-savoured fluxes are evil. 2. progn.

All these fluxes are evil for the same reasons which we have above rehearsed. Yet sometimes they may be cast forth critically and advantageously, if in the urine there do appear the signes of concoction; as you may see in *Hippocrates, in* 1. *Epid. Sect.* 1. *Ægr.* 14. where *Melidia*, who lay sick in the Temple of *Iuno*, was first taken with a strong pain of the head, neck, and breast, presently followed an acute feaver; the sixth day she became comatous, troubled and dismayed, new raving fits, with a redness in her cheek, and some deliration; the seventh she sweat, the feaver remitted, her pains remained, and the feaver returned. Her sleep was little, her urine well coloured, but thin to the end. The fluxes of her belly cholerick, acrimonious, very little, and those black, and ill smelling: a smooth and white sediment was in her urine; she sweat, and upon the eleventh day the crisis was perfectly made.

The manner of excretion. *Liquid excrements of the belly with pain, and a dysenteria, or a laborious and frequent dejection, are evil.*

For they signifie a very great sharpness of the humours, which gripes, prickes, and gnaws the guts exceedingly. Which *Hippocrates* observes *in* 1 *Epid.* in many who have died of malignant feavers; of which he saith, *Their bellies were loosened, and they often let forth little matter, but cholerick, sincere, thin, watry, and full of acrimony*: a little after; *These diseases which afflicted these persons were dysenteries, tenesmus, lienteries, and fluxes of the belly:* which he also observed *in* 3. *Epid. Sect.* 2. *Ægr.* 6.

Ægr. 6. of the daughter of *Euryanax*, who the twelfth day was troubled with a flux of cholerick, little, clear, thin, and sharp matter, molesting her by frequent evacuation, of which she died. Notwithstanding sometimes difficult diseases are judged by a *dysenteria*, as *Hippocrates* hath taught, *Aph.* 48. *Sect.* 4. *A Difficulty of the guts happening to the splenetick is good*, if the dysentery do not remain long; for otherwise it is of ill consequence, according to the 43. *Apho. of the same Section. Those splenetick persons who are taken with a difficulty in the guts, if it remain long, they are troubled with water between the skin, and a smoothness of the guts, and so dye.* Other diseases are also terminated by a dysenterical flux, as you may see *in* 1. *Epid. Sect.* 1. *Ægr.* 10. where *Hippocrates* thus writes of *Clazomenius*; *about the one and thirtieth day happened a flux of many watry and dysenterical humors, and the fourtieth day he recovered.* But these fluxes when they are signes of health are unaccompanied with any pernicious symptomes: but for the most part eruption of bloud, abundant sweating or some other good signe happens with them.

A liquid flux which imperceptibly flows from the body, is very dangerous.

For either it signifies a depravation of the senses, and madness, or a dissolution of the natural heat, which is presently followed by an abolishment of the senses.

A flux of the belly which may be easily endured, and which gives any ease to the patient, is good.

For it shewes that nature doth expell the noxious humors, and that a dissolution of the disease is nigh at hand.

By the bladder] *That urine is the best which is of a moderate substance, answering the quantity of drink taken, of a colour inclining either to red or yellow, with a white sediment, smooth and equal.* Gal. 1. de Crif. chap. 12.

That all the vices of urine may be the more easily discerned, it will be requisite in the first place to set forth all the conditions of a good and sound urine, that this Theorem may be a rule, whereto to reduce all those that follow. Therefore a good urine ought to be of a middling substance, that is, neither too thick nor too thin, of a colour inclining to red or yellow; for some urines are more, others less coloured, and yet well concocted, which uses to procced from the several dispositions of bodies, that is to say, from the temper of the liver and other principal entrails, as also from the age, sex, diet, and manner of living of several persons. For hotter bodies have urine more coloured, and cold ones more pale. Young men have urines thinner and higher coloured then those of children, children have thicker, and old men thinner and less coloured. The urines of women are thicker then those of men, and less coloured, with much sediment. And those that indulge to their appetites make water with much raw sediment, and those that suffer hunger, watching and labour, make water of a higher colour, with less sediment. On the other side, those that live at ease have urines less coloured with much sediment. But in well tempered bodies that urine will be best, which, as *Galen* teaches, inclines a little to the colour of saffron; and those other differences that come neareſt to this are to be accounted best: but in diseases it suffices to prognosticate a recovery, if that the urine enjoy as near as may be those properties which it had when the patient was in health: and therefore it would avail much to have observed the urine when the patient was in health, that you may thereby know how much it is fallen from its natural condition. Lastly, the sediment ought to be white, smooth, and even; which *Hippocrates* confirms, 2. *progn. text.* 26. and he addes, that this sediment ought to remain all the while till perfect judgement be made of the disease: for if it do intermit, and that sometimes the water be made without any sediment, it portends that the disease will be longer and less safe. But here it is to be *noted*, that *Hippocrates* in the forecited place onely looks at the

ſediment by which the concoction may be judged of; not at the ſubſtance or colour, for that varies in every individual. And for that alſo becauſe a urine which hath an excellent ſediment & a excellent color, muſt of neceſſity have a middling ſubſtance, therefore that ſediment which ſettles at the bottome of the chamberpot, white, ſmooth, & equal, like well concocted puruſency, is a ſigne of perfect concoction. That *enæorema* which appears hanging in the middle of the urinal or chamber pot, is leſs commendable, and ſignifies a more imperfect concoction. But the cloud that ſwims at the top of the urine, deſerves yet a leſs commendation. Although as *Galen* teaches *in* 3. *Epid.* both that which appears in the middle, as alſo the cloud, ſo they be good, are ſometimes ſufficient for the foretelling of health; which *Hippocrates* doth expreſly ſay, *Aph.* 71. *Sect.* 4. *where the judgement of the diſeaſe is made the ſeventh day, there appears in the urine of ſuch perſons a little red cloud on the fourth day.* But ſaith *Galen in his commentaries*, not onely the appearing of a red cloud not ſeen before ſignifies judication, but alſo of a white cloud much more; but that which hangs in the middle being white, equal, and conſiſtent, is better then either of them.

The liquidneſs of urine, and its qualities.] *Thin urines, of a good colour, in acute diſeaſes are wholeſome.*

Of theſe ſpeaketh *Galen Comment. in* 1. *Epid.* in theſe words; *certain therefore it is, that thin urines, if ſo be they are of a good colour, by reaſon of the goodneſs of the colour, do promiſe health, but whereas they were thin, they required onely time for concoction.* Tis true theſe urines do portend health, but not ſuddenly enſuing; which *Hippocrates* obſerved *in* 1. *Epid. Sect.* 1. *Ægr.* 6. in a patient named *Cleonactides*. This man upon the ſixtieth day made a thin water, but of a good colour: on the eightieth day a perfect judgement was made of the diſeaſe. Alſo *Ægr.* 10. *of the ſame ſection. Clazomenius* from the beginning of his diſeaſe unto the ſixteenth day made a thin water, but of a good colour, with much diſperſed matter hanging in the middle thereof, without any ſettlement, and the fourtieth day he recovered. So the 3. *Epid. Sect.* 9. *Ægr.* 5. *Chærion* made a thin water, but of a good colour to the end, having a kind of clammy *enæorema* hanging in the middle, and on the twentieth day perfect judgement was made.

Urines thin, white, and watry, in a difficult diſeaſe are pernicious.

For either theſe urines do ſhew the cholerick matter to be carried up into the head, whence ariſes phrenſie and madneſs, of which *Hipp. Aph.* 17. *Sect.* 4. *where the urine appears white and perſpicuous, it is dangerous, eſpecially if it come from ſuch as are in a Phrenſie.* But *Galen* ſaith *in his comment.* That he never ſaw any phrenitick perſon ſaved who made ſuch water. Or they ſignifie very great crudities, which portend either death or a long diſeaſe, for nature requires a long time to expel that extreme cruditie. And therefore if the Feaver be not very vehement and acute, and the ſtrength of the body not waſted, the health of the perſon is many times recovered, though it be a good while firſt. But in a vehement diſeaſe, and where the ſtrength is decayed, ſuch urines are altogether pernicious. But thoſe urines do principally denote deſtruction, which come after the beginning of the diſeaſe, and continue long, ſuch as were thoſe that appeared in a certain woman, who on the eleventh day made thin and watry urines, which continued ſo to the fourtieth day; but if after the judgement of the diſeaſe be made, thoſe urines do ſtill continue, it is a certain ſigne of relapſe. In other diſeaſes, as intermitting Feavers, or gentle and diuturnal, a thin urine denotes great obſtructions of the milt, liver, meſentery, and other like parts, through which the urine being ſtreined becomes ſo thin and watry.

Thoſe urines which are thick, full of humors, little in quantity, not without a Feaver, if they come thin from ſuch perſons in good quantity, tis helpful, But theſe chiefly are ſuch

which

which have a sediment at the beginning, or presently after.

By *thick* urines are to be understood such urines as either are very crass, or are alwaies troubled or muddy; by *grumous* urines, such as have many clods or lumps in them. Such urines are made at the beginnihg of Feavers proceeding from flegme: for thickness comes from the multitude of thick humors; the lumps in urine are caused by certain bits of flegme dryed by the heat of the Feaver: these urines are then made *in little quantity*, because nature is then imployed to retain it: but when the humor is concocted the urine appears thinner, that perturbation ceasing, and it comes forth in greater quantity, because nature now endeavours an evacuation; and by how much the more plentifully it is evacuated, by so much the more it helps, as in all critical evacuations. Therefore in this place that is called *thin urine*, not which is so indeed, for that avails not; but that whose muddy distemper is taken away by concoction: These are chiefly made in feavers proceeding from flegm, in which the urines are wont at the beginning to have a certain deceitful sediment, which is not made by concoction, but by the descending downward of raw humors.

That urine which comes from the body thick, muddy, and troubled, but becomes afterwards of it self cleare and limpid, is good.

For it portends the victory of nature separating things heterogeneous, and expelling that which is injurious to her, and that so much the more, if after this separation the thicker part settle in the bottome white, smooth, and equal.

Urine which at first comes forth clear, but after some time becomes muddy, is good.

For it signifies that nature hath begun a concoction, and made a notable entrance in it.

A thick muddy urine, which so remains, that being put to the fire will not clear up, is evil.

For such urine, as *Galen* teacheth *in Aph.* 70. *Sect.* 1. if the strength of the body be accordingly, shews that the disease will be long; if the strength be diminished it portends the death of the patient: for it is caused by a multitude of thick and crude humors, with which much winde being mixed, the urine is thereby agitated and troubled; so that if the strength be wasted, there is great danger lest it be suffocated by the abundance of such humors; but if there be strength remaining, much time is required to discuss those humors. There is an example of this urine in *Hipp.* 1. *Epid. Sect.* 1. *Ægr.* 4. in the wife of *Philinus*, who made much water the eleventh day with convulsions, which seldome bring along with them white or thick urine, as in those waters which settle, when being set aside for a good while, they persisted muddy without settling; the colour and thickness of the urine being like that of cattel; on the twentieth day she died. Also *Ægr.* 11. *of the same Section*, in the wife of *Dromeada*; the second day she made a thick white and troubled urine, like to those which have a settlement, when after they have been set aside for some time they become muddy; yet her urine settled not; on the sixth day she died: so also in *Hermocrates*, and in another that in a hot fit eat and drank largely, the same troubled and unsettled urines were observed.

Urines that come forth muddy, and remain so with an evil smell, are very evil.

For they signifie a Gangrene in the bladder or the parts adjoyning.

Red urine, or yellow and thin, and so continuing long, is evil.

For it shews an extraordinary heat and inflaming disposition in the liver, or stomach, or midriffe, by which no concoction but rather an adustion or scorching of the humors is caused. And therefore such a kind of urine persevering, if the body be weak, portends death; but if the body be in strength, it signifies a pro-

longation of the disease, or a diversion of the humor into the lower parts.

Black urines appearing in an acute disease are pernicious.

For they signifie an extraordinary scorching up of the humors, causing them to degenerate into melancholy, which produces deadly affections; as may be seen in *Philiscus*, 1. *Epid. Sect.* 3. *Ægr.* 1. whose urine coming forth on the third and fifth day, was black, he dyed the sixth. Also in *Erasinus*, *Ægr.* 8. *of the same sect.* who dyed the fifth day. *This man*, saith *Hipp. had a Feaver through his whole body, with sweating, and elevation of the Hypochondrium, a stretching with pain: he made black water, having a round enæorema without any settlement.* Also in *Pythian*, 3. *Epid. Sect* 3. *Ægr.* 3. who the third and fourth day made black water, and the tenth day dyed. But if these black urines are also thin, they are so much the worse, because they signifie a greater crudity; hence *Hipp. in* 1. *Epid.* Thin, black, urine and made in a little quantity, which appeared at the beginning of burning Feavers, was one of the signes by which they were wont to portend certain death: but whether they come forth in a great or small quantity, these black and thin urines are alwaies mortal: as also those which appearing at first black turn afterwards into thin and watry. Which is confirmed by the story of *Silenus in* 1. *Epid.* when his urine had continued black unto the fourth day, in the fifth day it began to come forth thin and transparent. And *Hist.* 2. *Sect.* 3. *Lib.* 3. of a woman that lay sick at the cold water, and dyed the eightieth day. On the eleventh day she made *much thin and black water*, and on the twentieth *much watry urine.* Which *Galen* observed *in his comm. viz.* that black urines turned into watry are mortal. Lastly, worst of all are the black urines with a black sediment, of which *Galen* 1. *de Crif. Cap.* 12. thus discourses; *worst of all is that urine which is totally black, so that I have seen no man escape that ever made such water: yet it is less pernicious if the sediment be only black; and still less dangerous, if onely that which is in the middle be black; and much less it is to be feared, if the cloud appears onely of that colour.* Yet here it is to be noted, that black urines are not alwaies evil; For first, in melancholy persons such urines may be critically made. As *Galen in comment. in* 3. *Epid. Sect.* 3. *text.* 74. relates, that he knew a certain woman who was much helped by the evacuation of such waters. *Secondly*, in splenetick persons black urines may be safely voided, that is when the spleen empties it self through those parts, as happened to *Herophon in* 1. *Epid. Sect.* 3. *ægr.* 3. who being oppressed with an acute Feaver, from the beginning to the fifth day made black and thin water; the fifth day his milt swelled, the eighth day the swelling ceased, his urine was more coloured, and had a little settlement: the seventeenth, the disease had a prosperous judgement. *Thirdly*, urines of this nature being joyned with an efflux of blood from the nose are less dangerous, because the thinner and hotter parts of the blood wherein the danger lay, is voided by bleeding, as you may see *in* 1. *Epid. Sect.* 3. *Ægr.* 7. where *Meto* being taken with a Feaver, the fourth day there flowed out of his right nostril a little blood twice; his urine was blackish, having a blackish matter hanging in the middle, dispersed, without settlement; the fifth day clear blood flowed more copiously out of the left nostril, he sweat, was judged. After the Crisis he was walking, and talked idle, making thin and blackish water, he slept and came to himself his fit returned not, but he bled often, and that after the Crisis. *Fourthly*, black urine appearing upon a suppression of the months, when they flow copiously, they cause a solution of the disease, as for example, in 3. *Epid. Sect.* 3. *Ægr.* 11. where mention is made of a woman, of whom judgment was made the third day of that made thin and black water, but at the time of the Crisis, her courses descended very plentifully.

The Quality. *Much urine and well concocted upon the decretory day, are good.*

For

For they shew that the matter causing the disease is overcome by nature, and is conveniently expelled through the proper places. Such urines *Hipp.* observed in *Nicodemus*, of whom he saith; that *on the twenty fourth day he made much white water, wherein was much sediment, and was judged with sweating*: and of *Pericles* the same *Hipp.* speaks, that *the third day the Feaver was asswaged, much concocted urine appearing, in which was much sediment*; then also he saith that *Chærion* was saved by making much bilious urine.

Much urine, thin and watry, without any contents in it, profit nothing, are evil.

For they proceed from a multitude of excrementitious and crude humors, or from a hot distemper of the kidneys, which is thought to cause a diabete: or from a colliquation of the whole body, whence proceeds a great dissolution of the natural heat. So 3. *Epid. Sect.* 2. *Ægr.* 12. a certain woman on the eighth day made much water without any profit or amendment, and the fourteenth day died.

Little urine and thin, not answering to the quantity of drink taken in any disease, are evil.

For it shews a weakness of the separating and expulsive faculty, or an intense heat parching up the moisture of the body; as appeared in the wife of *Dromeada*, and in the youth of *Metibza*, and in the daughter of *Euryanactes*, and in the woman that lay ill at the house of *Pisamenus*, and in her that lay ill at the house of *Pantimedes*; all which persons made thin and little water, and soon afterwards died.

Stoppage of the urine in acute diseases is pernicious.

For the suppression of urine in acute diseases, as *Galen* teaches *in his comment in* 3. *Epid.* is caused either by a fiery heat consuming the serous humors of the bloud; or by an extinction of the natural functions; as happened to *Silenus*, whose urine stopped the sixth day, the seventh day he made no water, and the eleventh day he dyed. Also in a woman that lay sick of a quinsie in the house of *Ositon* at *Cizicum*, and a youth of *Morlibia*, whose urine stopped a little before their death. But that is the worst suppression of the urine that follows a coldness of the body, as *Hipp.* teacheth 1. *Coac. Sect.* 1. *Aph.* 5. after coldness pernicious *is that suppression of the urine that precedes a coldness of the body*, because it signifies a critical evacuation, which will be accomplished, especially by sweating. So on the other side, it is worst of all when it follows that coldness, because it shews that the action of the bladder is totally destroyed, and that the heat thereof is extinguished by that perfrigeration.

The contents, the urine. *Urines that have either sediment or matter hanging in the middle, nor cloud, are evil.*

Those urines wanting content are evil, if it be not caused by famine, labour, or watching, or a nephritical disposition of the reins, or that the bodies were not very cholerick. For they signifie great crudity of humors, or concoction of them, or weakness of the bowels, or inflammation of them, or else vehement obstructions.

urines that have little sediment are evil.

They indeed are less evil then those that have no contents, because they proceed from the same, though from lesser causes: of these speaks *Hipp. in* 1. *Epid. Thin urine and unconcocted, discoloured, and little, or having thickness, and few sediments, are evil.*

The sediments that appear like meal are evil, those that appear like slates are worse, but those that seem like bran are worst of all. Hipp. 2. prog.

These kind of settlements, according to *Galen.* 1. *of Crit. chap.* 12. are caused by an

an immense heat melting and burning the fat, and the very substance of the flesh. But when this burning heat preys upon the solid parts, first it assails the more soft and newly substantiated fat, afterwards the more solid; and when all the fat is melted and consumed, then it falls upon the more tender and newly compacted flesh, after that upon the more solid flesh, and lastly upon the most solid parts themselves. By the new fat thus melted by the heat of the Feaver, are caused oyly urines. But by the more solid fat being melted, as also from the flesh raggedly dissolved, and likewise from thick blood parched are caused those sediments resembling *meal*, as *Galen* teacheth *in comment of this Prognostick*. From the solid parts unequally dissolved proceed those sediments which are like slates, as also those resembling bran, when the heat is more intense; whence it plainly appears, that the *slaty* sediments are worse then the *mealie* ones, and the *brannie* sediments worse then the *slaty*: how pernicious those sediments are will appear by the judgement of *Galen*, of that resembling meale which is not so bad as the rest; *in Com. in Aph.* 31. *Sect.* 7. he thus writes; *such urines are mortal, as also is said in the Prognost. and many are killed in a short time of sickness, and who ever of them escape they have a long time of sickness, the disposition requiring a great concoction where such water is made.* So *Hipp. in* 1. *Epid. Ægr.* 2. also declares. His urine was copious, the sediment was thick, a white sediment like thick flour white, his extreme parts were cold, and on the eleventh day he dyed. But *in* 3. *Epid. Sect.* 1. *Ægr.* 3. he saith of the man that lay in the garden of *Dealces*, *his urines were thin*, variously coloured, having various sediments like thick flour. This man he relates to have been judged on the fourtieth day. It is therefore manifest by these examples, that whoever they be that void urine like to a thicker sort of meal, if they may be saved, yet it is long before they escape. But whoever they are that are thus mortally affected, they perish immediately: Those are floury urines in which the sediment appears at the bottome of the urine like purulency, and they are very dangerous, as I have often experienced.

A shattered and unequal sediment in the urine is naught.

For it signifies crudity, which if it remain in the same condition, so that the sediment do not change for the better, in the progress of the disease, it shews that nature cannot overcome the matter causing the disease; but if it do daily mend, there is hopes of solution, though it may be something long first.

A thin sediment in the beginning of a disease, which in the progress of the malady thickens daily by degrees, is good.

For it shews that nature endeavoured a concoction at the beginning, and doth daily labour to bring its work to perfection.

A thick sediment appearing in any time of the disease is evil.

Those sediments are caused by thick and crude humors, which being mixed with the urine, separate themselves from the water, and by reason of the heaviness sink down to the bottome of the chamberpot. Now because those thick and crude humors are very hard to be overcome by nature, therefore they do threaten much danger, especially if the strength of the body be decayed; but if there be any strength of nature, they do onely signifie a prolongation of the disease: these crude and thick humors setling at the bottome of the chamberpot may deceive a young Physician, who may perhaps think them to be a good and true settlement; and therefore they are to be exactly distinguished from them. And *first*, those crude and thick humors usually appear at the beginning of a disease, but the good and true settlement never till the declination thereof. And it happens that after the beginning of the disease that thin and crude humor being attenuated, there appears no more settlement in the bottome, but onely in the place there-

of

of a cloud or matter hanging in the middle thereof; which as the concoction proceeds, falls down daily from the upper part of the chamberpot to the lower part; which is the true sign of concoction when the cloud changes into that matter which hangs in the middle of the pot, and is called *Enæorema*; and the *Enæorema* into the sediment: but on the other side, when the settlement changes into the *Enæorema* or *cloud*, that sediment was not laudable, but a crude and thick humor which was afterwards attenuated by concoction. *Secondly*, this crude humor doth not stick close together, neither is it altogether smooth and equal, but slimie and over thick. But the laudable sediment is smooth, equal, and moderately thick. *Lastly*, this crude humor is heavier, and resides altogether to the bottom of the chamberpot; but a good sediment doth not close but rather rest on the bottom, being a little raised from it, and as it were gathered into a kind of globe, which the crude humor doth not do, but remains a little more diffused and scattered. When any one seems rid of a disease, yet makes discoloured waters, with a sediment very white like snow, he dyes of a relapse, as Dr. *Pachecus* observes.

Black or blew sediments in urine are worst of all.

And that for the reasons which were told before where we treated of black urine.

A shattered, unequal and black matter hanging in the middle, is bad.

A sediment endued with these qualities hath been shewed before to be evil; all other things contained in the urine are bad for the same reasons, though less evil then a sediment.

A little cloud at the top of the urine appearing in the form of a circle is evil in acute diseases.

For it signifies an approching *Phrensie*, and after that death.

Oily urines, wherein do swim little fat things like cobwebs, are evil. Hipp. 2. progn.

For it shews a mighty heat that melts the fat which is in the reins and the whole body. Now how you may know whether this colliquation proceed from the reins or from the whole body, *Hippocrates* teaches *Aph.* 35. *Sect.* 7. in these words; *Those who have a close fat swimming on the top of their urine, have an acute evil in their veins.* By an *acute evil* he means a hot distemper, which causes as it were little heaps of fat in the water; for there is a great quantity of fat heaped up about the reins, and from thence there is a short and quick way for the coming forth of the urine, so that that which is melted sticks not much by the way. Therefore if the fat come forth in lumps, it proceeds from an acute evil in the veins; but if not in lumps, but like cobwebs, it shews a consumption of the fat through the whole body. Of this oily urine there is an example in *Hippocrates*, 1. *Epid. Ægr.* 11. in the wife of *Dromeada*, from whom on the fourth day there came thin and oily urine, on the fifth day the same, but the sixth day she dyed. Also in 3. *Epid. Sect.* 3. *Ægr.* 1. in the son of *Parion*, who the seventh day voided oily water; and on the hundred and twentieth day dyed: and doubtless those urines persevered a good while, which *Hipp.* seems to intimate in these words; *Urines continuing to the end are evil.* So *Ægr.* 16. *of the same sect.* A young man of *Mælibea* from the beginning of his disease made oily water, the twentyfourth day he dyed: now although these oily urines are extremely bad, yet the *floury*, *slaty*, and *branny* urines are much worse, as we have shewed above.

The manner of excretion. Urines that come from the patient either unknown, or not remembred, are dangerous.

This opinion is set down in *Hipp. in* 1. *Prorrh. text.* 28. in these words; *The making of water is dangerous to parties not remembring it.* For either it shews that the brain is much distempered, and that the patient is affected with a great phrensie,

phrensie, or that the strength of the natural parts is extinct, so that they cannot exercise their function any longer.

Urines in malignant and pestilent Feavers in substance, colour, and contents like the urine of sound people, is pernicious.

This *Hippocrates* seems to intimate *in Coac.* where he saith, *Urines concocted suddenly and without reason for it, are evil; and what ever appears contained in the urine not concocted according to nature, is worse.* Malignant and pestilent diseases proceed from a certain venomous quality which particularly wageth war with the spirits and heart it self, the soundness of which parts may be soon destroyed by such a potent enemy, though the rest of the body be in a good posture; or else urines of this nature apparently commendable in acute diseases, and full of evil symptomes, do shew that the choler with which the urines are coloured, hath invaded either the brain, or some other bowel; and that none of the hurtful humors come forth with the urine, which is extremely pernicious.

Be not deceived, though the bladder, or reins affected with any disease send forth bad urine; for such a symptome concerns not the whole body, but onely those parts. Hipp. 2. prog.

This is hence discerned; for if the urine be full of evil contents, and yet be well concocted, it shews that the evil proceeds onely from some particular affection of the reins or bladder; for were it the product of a burning Feaver the urine would not be well concocted. This is intimated by *Hippocrates Aph. 76. Sect. 4. That water which being thick hath in it little peices of flesh, as it were certain hairs, proceeds from the reins.* And. *Aph. 77. of the same sect.* Where a thick urine comes forth with a certain branny sediment, the bladder of such persons is scabed. In these Aphorismes by *thick* urine *Hippocrates* meaneth well concocted, as *Galen* testifies *in his comm.* which is a peculiar symptome that the things contained in the urine proceed from the reins and bladder.

Of sweating.] *Sweatings which break forth with manifest signes of concoction upon the critical day, chilness going before from the whole body being hot; copious, dropping, and with vapours, and by which Feaver is either perfectly dissolved, or much diminished, are good.*

It seemed fit here to reckon up all the properties of a good sweat, that it may be the better understood, as also that all the differences of bad sweats may the better be known by being compared with this rule. There are seven properties required to make a sweat commendable, of which the first is taken out of *Galen* 2. *of Crit. cha.* 1. that the signes of concoction ought to appear before the eruption of sweat. For *concoctions*, as saith *Hipp.* 1. *Epid. do shew the celerity of the Crisis, and the security of health.* But crudities and inconcoctions turning into evil abscessions signifie pains, length of the disease a crisis, death, or relapses. The *second* condition is, that good sweats should break forth upon the critical day; which *Hipp.* testifies *Aph.* 56. *Sect.* 4. *sweats if they begin with Feavers are good, and breaking forth upon the* 3, 5, 7, 9, 11, 14, 17, 20, 21, 27, 31, *and* 34. *For these sweats make judgment of the disease, but those that do not come forth at such times signifie pain, length of the disease, and relapses.* By the way we must observe upon this Aphorisme that which *Galen* diligently inquires into *in Comment.* why the *fourth* day was in it omitted, when as it is the first judicatory day. But to this he answers, that this day was either omitted by *Hipp.* himself, or by the man that first transcribed the book. *For*, saith he, *if Hipp. did altogether pass it by, my opinion is, that he did it for this cause, because that very many acute diseases which are judged by sweating receive a better judgment the third and fifth then upon the fourth day; for they are rare that are judged upon the fourth day: and this I have found by experience, who have made diligent search why* Hippocrates

crates *omitted the fourth day*; Then, saith he, this comes to pass *because acute diseases are moved upon the odd days, and upon the same dayes Crisis doth usually happen on which the disease is exasperated.* And so upon the third and fifth day the Crisis happens rather then the fourth day, because those diseases that are moved upon the even dayes, are more slowly judged. The *third* condition is, that good sweats do follow some critical coldness. For when nature expelleth out of the urines the thin and acute humors, and thrust them forth into the outside of the body, the sensible parts by which those humors pass being by them bitten, she causeth a trembling, with refrigeration of the extreme parts : but if nature be strong enough, the heat breaking forth, an acute and great Feaver follows this trembling and refrigeration, by the heat of which the humors being attenuated, they are resolved into a copious sweat. Whence *Hipp. Aph.* 58. *Sect.* 4. *If a chilness come upon one sick with a burning Feaver, it causeth a solution.* And so 3. *Epid. Sect.* 2. *Ægr.* 5. speaking of *Cherion*, he saith, *in the seventeenth day a coldness came upon him, an acute feaver, he sweated without the Feaver, was judged.* The *fourth* condition of sweats is, that the sweats should be copious and warm, and proceeding from the whole body. For then they speak the faculty strong that diffuses warmth over the whole body, and digests the superfluous humors into sweat, resolving them through all parts equally ; which when it is much weakened, or affected with a malignant disease, it attempts without success : for sweats are unequally evacuated, when they come forth more in one place and less in another, or sometimes not at all : many examples of this kind of sweat *Hipp.* declares *in Epid.* as in *Pericles*, of whom he saith sweat, *The fourth day ; brake forth over the whole body warm and in good quantity, without a Feaver, he was judged*, and it never returned. And of *Nicodemus* saith he, *a sweat flowed out over his whole body in good quantity and warm, the Feaver left him, the Crisis was made.* And of a melancholy woman; *About night, much sweat and warm brake out all over the whole body, she was freed from her Feaver ; she slept.* And of a *Larissean* virgin, *she shook, and presently she sweat in great quantity, and warm without a Feaver, and judged.* The *fifth* condition is, that the sweat should come by dropps and with a stream, which *Hipp.* 1. *prog. Cap.* 8. declares. That shews that nature is oppressed with bad humors, and strongly expels them to the outside of the skin. The *sixth and last* condition is, that by that sweat the disease should be taken away, or at least should be diminished. Therefore *Hipp. in Epid.* reckoning up the best sorts of sweat, that do wholly take away the disease, often repeats, *free from Feaver, or the Feaver ceased*; or *the Crisis was made without the Feaver.* As to those in whom the disease was onely diminished, he relates the story of one that lay sick in the garden of *Dealces*, of whom he saith; *The seventeenth day his extreme parts were cold, he was covered, had an acute Feaver, his whole body sweat, he was eased, came better to his senses yet the Feaver departed not ; the twentieth day he slept, he came absolutely to his senses, he sweat, the Feaver left him, and his thirst also which returned again. Neither was the Crisis perfectly made, till he was taken with a frequent flegmy looseness, together with much sweat over all the body.*

Much sweat appearing in an acute feaver, and not diminishing it, is evil.

The quantity. For it shews a multitude of humors which nature is hardly able to overcome, and that not to be done but in a long time, which cannot be granted in acute diseases. Therefore there is great danger lest nature should be overcome before she can perfect the concoction. Whence *Hipp. Aph.* 42. *Sect.* 4. *Much cold or hot sweats flowing alwaies, the cold signifies a more vehement, the hot a more slack disease.* Because, as *Galen* saith, *in comment. both signifie an abundance of humors, the cold of cold humors, which is worse; the hot of hot humors, which is less dangerous, then the former.* For these neither cause a solution nor diminution of the Feaver, & proceed when the

disease is raw, and therefore they shew a prolongation thereof at least, or pains and relapses.

Continual sweatings, whether they be moderate, or in great measure in an acute disease, are evil.

For they signifie a weakness of nature, which cannot retain the humors until they can be prepared by concoction for an expulsion. And therefore they who continually sweat, though it be moderately, if they escape, yet are they long sick. But they that sweat very much and often, tis certain they cannot hold out long. To this may be added, that whatsoever sweats remain for many dayes, are symptomatical; for those that are critical are at an end in the space of one day.

Every little sweat, but especially that which appears about the head and neck, is evil.

For little sweat, or dewiness alwaies happens through a very great weakness, so that the strength of nature is not able to contain the humors that are about the skin; as you may perceive in a swouning fit, where a small dewy sweat moistens the head, neck, and breast; as also such a kind of sweat appears often in dying people, which is vulgarly called *diaphoretick*. So in *Hippocrates* 1. *Epid. Sect.* 1. *Ægr.* 1. *Silenus* sweat a little about the head, and the eleventh day dyed: so in the 3. *Epid. Sect.* 2. *Ægr.* 11. a woman which after abortion was taken with a great Feaver, sweat on the fourth day a little cold sweat about the head, and the seventh day she dyed.

Sweating that as soon as it breaks forth stopps again, is evil.

For it shews that nature endeavours to expel the humor, but is not able to perform its work.

Little sweating, and an often coming and going of cold, is deadly. 1. Coac. Aph. 1.

Hippocrates saith, that this small sweating with frequent chilness signifies an Empyema; And certainly the humors contained in the vessels cannot produce these effects; when as these kind of sweats appear onely in the head and breast, but rather an Empyema being generated, the parts of the breast are moved by the acrimony of the purulency, whence proceeds that light cold, which is followed by a small sweat, through the weakness of the natural faculty, by which the nourishing juyce of the body is destroyed.

Cold sweats with an acute Feaver signifie death; with a milder disease a prolongation thereof. Aph. 37. Sect. 4.

In putrid feavers, the humors putrifie, sometimes in the vessels onely, sometimes in the whole body; whereby noxious humors are contained both in the substance of the parts, in the skin, and also in the whole habit of the body: both which happening together, that both the humors do putrifie in the vessels, and that the natural heat is extinguished, or near to an extinction, then the evacuations of these parts are sensibly cold. But nothing hinders but that the heat which is caused by putrefaction in the vessels, may be violent to extremity, and therefore it is a deadly symptome, shewing that there are a multitude of humors abounding in the body of that person, that are so cold that they can neither be warmed by the natural heat, nor by the heat of the Feaver. Therefore if there happen cold sweats in an acute Feaver, they foretell death; seeing that the multitude of cold & crude humors cannot in so little a time be concocted, the natural heat being very weak. But if they happen in a more gentle Feaver, they do not foretell death, but a prolongation of the disease, because the strength is not so much weakened by a mild Feaver, and in it time is protracted, so that nature may be able to concoct that multitude of humors: this is the doctrine of *Galen in comm. on this Aphorisme*. Notwithstanding cold sweats proceed from an extraordinary inflammation, or a simple dissolution of the natural heat; For when there is any extraordina-

ry inflammation in any of the internal parts, all the heat of the external parts is drawn inward, so that the outward parts remain altogether cold. And so it comes to pass, that when that internal heat causes a great evapouration, those vapours are condensed upon the skin, and are turned into sweat, and that a cold one also; being cooled by the coldness of the skin, as is wont to happen in the Feaver called lipyria. Also in dying people the natural heat being very much wasted, it is forced through the smal quantity thereof to retire and collect it self about the heart and interiour parts, whence all the external parts are left cold. But this heat being shut up, causes still some evapouration which congeals all into sweat, and that likewise cold, by reason of the mentioned coldness of the external parts: but which of these two wayes soever these kind of sweats do happen, they are without all question mortal. Many examples of cold sweat are declared by *Hipp. in Epid.* which clearly demonstrate the truth of this prognostick; *viz. in* 1. *Epid. Sect.* 1. *Ægr. Philiscus* the fifth day sweat cold, the sixth day died: and *Ægr.* 2. *of the same Sect. Silenus* the eighth day had a cold sweat over his whole body, and the eleventh day died. Also 3. *Epid. Sect.* 2. *Ægr.* 11. a woman which after an abortion was taken with a violent Feaver, the fourth day had a little cold sweat about her head, and died the seventh day: and *Ægr.* 12. *of the same Sect.* A woman that had a cold sweat over her whole body the seventh day, died the fourteenth.

Stinking sweats in an acute disease are most dangerous.

For they shew an extraordinary putrefaction of the humors, which destroys the natural constitution of the body.

The manner of excretion. *If between the intervals of sweating a coldness or shaking do often come and go, it is very bad.*

For that new endeavour of nature shews a great disturbance thereof, which is not able conveniently to perfect its intended evacuation, but still endeavours afresh to the great danger both of strength and life; whence *Hipp. Aph.* 4. *Sect.* 7. *a shaking after sweat is not good.*

Sweat that comes not kindly forth, but appears in the skin like graines of milet, is an evil signe.

This kind of sweat uses onely to appear in the neck and head by swounings, or other weakenings of the strength, which cannot send forth sweat copiously but in a little quantity onely, which is formed into little balls like graines of milet.

The time. *Sweat that happens not upon the Critical day is evil.*

For they are symptomatical, and caused by the force of the disease; for those sweats that are made by the motion of nature working in due order happen onely upon the critical dayes. So in *Hipp.* 1. *Epid. Sect.* 1. *Ægr.* 11. the wife of *Dromeada* sweat all over the sixth day, and dyed the same day. And 3. *Epid. Sect.* 3. *ægr.* 3. *Pythion* sweat much the tenth day, and dyed the same day.

Sweats appearing in the beginning of a disease are evil.

Because in the beginning all things are crude, and nothing can be healthfully voided, unless it be first well concocted. And therefore this is a general rule concerning all sorts of evacuations, which can never be healthy in the beginning of a disease; so *Philiscus* sweat the first day, the third day about evening came an acute Feaver with sweat; the sixth day he dyed: so the wife of *Dromeada* sweat all over the third day, and dyed the sixth. And that phrenetick person whose history is related *in the third Epid. Sect.* 3. *ægr.* 4. The first day he sweat much all over, and second day he sweat, and the fourth day dyed. By way of ulcer. *Whatever abscessions appear after signes of concoction, and directly from the affected parts, and in a place remote from it, steep, and capacious, and not exquisitely sensible, and which come*

quickly to a ſuppuration, are healthful; thoſe which happen contrary, are dangerous. The places moſt fit to receive abſceſſions are the thighs, legs, arms, groins, armholes, and joynts; for they are remote from the internal parts, or at leaſt fit to receive their excrements, and capacious enough, and endued with natural heat, ſo that the matter contained in them may eaſily be concocted, but if they are in the region of the belly they are dangerous.

What ever abſceſſions come forth when they are ſmall and come far out, jutting forth from the external parts, riſing up to a ſharp head, are good; but whatever ulcers are big, plain, and without a ſharp head, are evil; as alſo thoſe that turn inward, as likewiſe thoſe that break within.

Thoſe are beſt that communicate nothing to the internal parts, but thruſt themſelves outward much, cauſing little pain, and not changing the colour of the skin. Hipp. 2. progn. chap. 12.

The good or evil quality of abſceſſions is diſcerned by a threefold difference, that is, of the place where they break forth, of the figure which they retain, and the place into which they break. As to the *firſt*; By how much the more an abſceſſion tends to the external parts, by ſo much the better it is as a ſymptome, becauſe it ſhews the ſtrength of the expulſive faculty; and as a cauſe, for that it leſs offends the interiour parts. As to the *figure*, *thoſe which are ſmall*, ſaith *Hippocrates*, *are beſt* (which is not to be underſtood ſimply of the quantity of the whole abſceſſion, the bigneſs whereof ought to anſwer the quantity of the matter, but of the largeneſs at the bottome, *viz.* that thoſe which have leaſt circumference at the bottome are beſt) then alſo thoſe which come out fartheſt, and riſe to a ſharp head; for they ſignifie a ſtrength of the expulſive faculty: but thoſe that are large at the bottom and leſs ſharp, for contrary reaſons are very bad. As to the *breaking* of them, thoſe are the beſt of all that break outward, for ſo the abſceſſion is more fit to be cured, and it is more commodious for the matter to break outward then to fall down upon the internal members. Laſtly, thoſe are the beſt that communicate no pain, inflammation, or other evil diſpoſition to the internal parts, being in themſelves alſo not much painful, and cauſing little change in the natural colour of the skin, becauſe they ſhew that the parts about the ulcer are in good temper, ſo that they help forward the cure thereof.

Every abſceſſion which comes to ſuppuration, if it ſend forth commendable matter is a ſigne of health, if not, dangerous.

It hath been ſaid before, that the beſt ſort of matter ought to be white, ſmooth, and equal, and not ſtinking, and that which hath contrary qualities is evil, for it ſhews rather a putrefaction of the matter then a true concoction.

If the patient be not eaſed by the appearance of an ulcer in any part, but that the ſame ſymptomes remain, it is mortal.

For it ſhews that the ulcer proceeds rather from a ſettling of the matter in that part, then a critical expulſion, which alwaies gives eaſe to the ſick perſon.

An ulcer appearing at the beginning of a diſeaſe, is worſt of all.

For no evacuation can be profitable while the diſeaſe is crude; but in abſceſſions this muſt be peculiarly obſerved, that thoſe diſeaſes are for the moſt part mortal and peſtilent at the beginning whereof they do happen, whence they do preſage very great danger of life.

Ulcers appearing greater or leſs then they ought to be are evil.

Thoſe that are leſs can not receive a ſufficient portion of the putrid matter, by which the diſeaſe may be either diſſolved or diminiſhed, and are therefore unprofitable. The greater denote too great a quantity of the matter cauſing the diſeaſe, ſo that it is to be feared that nature may ſink under her burden; as alſo leſt

left besides the skin and the muscles, some inward or principal or necessary part should be overcharged.

Those ulcers that after they have appeared retire back again, are deadly.

For they shew that nature is in a languishing condition endeavouring an evacuation, but not able to perform its work, through an extraordinary weakness. Onely this must be understood, that this retirement must not be caused by any other evacuation provided by art or nature.

Those which rise to the ears with pain, are pestiferous. 2. Coac. cha. 4.

For all those kind of ulcers called *Parotides*, by the best of Physicians have alwaies been suspected, by reason of the narrowness of the place, which is not capacious enough to receive all the matter; as also by reason of the nearness of the brain, to which there may be a reflux of the morbifical matter. But if these ulcers are very painful they are the more dangerous, for they signifie a multitude of humors that extend the part, and so cause the pain. But if a flux of the belly follow the eruption of these ulcers, or that urine be copious, the patient often recovers; as happened to *Clazomenius in* 1. *Epid. Sect.* 2. *ægr.* 10. who had a swelling with pain near both his ears on the seventeenth day: on the twenty seventh day those swellings increased more, yet neither stayed, nor broke: on the thirty first day a flux of the belly took him, voiding much watry, dysenterical matter; he made thick water, the swellings about his ears fell, and on the two and fourtieth day he recovered.

Ulcers on the ears appearing with crude urine, are evil.

For they shew that nature is not able to suppurate the morbifical matter, and to disperse it to convenient evacuation.

Ulcers near the ears that happen when the strength is decayed, are deadly.

For then hath nature chiefly want of strength to expel the morbifical matter, and to soften the suppuration of the ulcers, so that if they cannot answer nature in this, there is no hope of safety.

Those ulcers near the ears which come not to suppuration are evil, unless they are followed by a copious bleeding at the nose, or a great flux, or that the patient voyd thick and concocted urine.

Yet every flux doth not dissipate these kind of ulcers, for in a pestilent Feaver being accompanied with these *Parotides*, it doth many times kill the patient; but it is necessary that the flux of the belly be critical and laudable, as is manifest from the above mentioned signes concerning looseness. Hence *Hipp. in Coac. If the hypochondrium be long afflicted, and the excrement of the belly of a bad smell, then ulcers near the ears are mortal.*

Ulcers near the ears of a moderate bigness, without pain, the strength of nature being not wasted, breaking out upon a critical day, the signes of concoction preceding, are good.

Though these ulcers near the ears are for the most part much suspected, as is said before, yet sometimes they break out with much advantage, that is, if they appear with the above mentioned properties, for they shew that nature hath vanquished the cause of the disease. So in *Clazomenius*, of whom we have before spoken, his urines through the whole course of the disease were thin but well coloured and on the seventeenth day, which is critical, there appeared ulcers near his ears.

By blisters] *Blisters appearing at the beginning of acute diseases over the whole body, or some parts thereof, are dangerous.*

These blisters use to appear for the most part in malignant and pestilent diseases, being the symptomes of them, and threaten great danger, but most especially

ally if they break out at the beginning of a disease: for it shews a more vehement malignity that stirs up nature before any concoction, to the expulsion of sharp and venomous matter, which is the cause of these pimples. Whence *Hipp. in Coac. In those persons upon whose bodies wheals do break out in Feavers all over, it is a deadly signe unless a purulent ulcer succeed them*: and in another place, *those who have red and round pimples about their joynts upon the skin, and a chilness besides, in such persons redness and blackness arises about the belly and groins, and they die*; which *Hipp.* confirms *in* 1 *Epid.* by the example of *Silenus*, upon whose skin on the eighth day there arose little, red, round pimples like pox, and the eleventh day he died. And although those pox and pimples which break out in children seem to be of this nature, yet they break out much to the health of the party affected, if it be caused by a simple ebullition and motion of nature, separating the pure from the impure. But when they proceed from a contagious distemper in the air, then are they very dangerous, making many times great slaughters among children.

Pimples that are very red, or chiefly black, or blew, are pernicious.

Being very red they signifie an intense heat in the humor, as appeared in *Silenus*; being black or blew they signifie an adustion of the humor, and a very great malignity, so that sometimes they obtain the nature of carbuncles. So in the smal pox and measils, where ever black or blew pimples appear, the party affected dyes.

The first qualities of the body. *That heat in Feavers is best which is temperate, gentle, equal in all parts, with some moisture, and most like the natural heat, with an equal softness of the whole body. First*, That benign heat is distinguished from the fiery heat by the moisture that accompanies it, for the other is usually dry. *Secondly*, by the equal softness of the whole body it is distinguished from the heat that uses to be in malignant Feavers, which most commonly deceives the Physicians: for it is mild and gentle, most like the natural heat, the more intense heat being shut in, and not liberally diffused abroad. Wherefore to this good heat of the body there ought to be an equal softness joyned, as *Hipp.* teaches 2. *prog. it is best for the whole body to be equally hot and soft*: for an equal softness of the body distinguishes the good heat from the others that are bad: and so the mild and gentle heat which is found in a malignant Feaver may easily be discerned by the unequal softness of the body, the hypochondriacal parts being commonly hard and extended. Or at least that heat will not be equal through the whole body when as the extreme parts will be found less warm, and above the belly a more intense heat. Thus a temperate heat equally diffused through the whole body, with an equal softness, is alwaies a good signe; for it cannot be that a body endued with that heat and softness can be dangerously ill; for that doth certainly demonstrate that the bowels are without inflammation, obstructions, or notable putrefaction.

An inflamed face with sweat in an acute Feaver is evil. 2. Prorrh. text. 33.

For that intense heat signifies an internal inflammation of the brain, the sweat also shews the said part to be vehemently afflicted, whereas *Hipp.* testifies in his *Aphorisms, where sweat is there a disease is.*

In Feavers a great heat about the belly, and a griping at the mouth of the stomach is evil. Aph. 65. Sect. 4.

For it shews a great inflammation, or much choler, and that very acrimonious and boyling in the stomach, or putrifying, which gives a suspicion of an inward erysipelas.

In acute diseases coldness of the extreme parts is evil. Aph. 1. Sect. 7.

For that refrigeration of the extreme parts is caused in acute diseases, either by reason of an internal inflammation, whose heat is so vehement, that it draws all

all the blood to it like a cupping-glass, so that the bowels of persons so affected are burnt up, but the extreme parts are cold, because of a defect of blood which is all retreated to the bowels, which *Hipp.* confirmes *Aph.* 48. *Sect.* 4. *In Feavers that intermit not, if the extreme parts be cold, and the internal parts be burnt up and dryed, it is mortal.* But those feavers wherein the extreme parts are hot and the inward parts cold, which are named Lipyriæ, and are caused chiefly through an inflammation of the nervous parts, as the ventricle, gutts, and are alwaies mortal, and kill the patient in a few dayes. Otherwise this refrigeration of the extreme parts is caused through a dissolution of the natural heat, the relickes of which are very little, bring chiefly collected in the heart and principal bowels, so that it cannot extend it self to the exteriour parts; and therefore those who are in that manner cold, are very weak, neither do they receive warmth again, but are approching to death; which *Hipp.* testifies *in Prorrhet. As often as the patient finds himself cold after the cold fit of a Feaver, and does not again wax warm, he is in an evil condition.* This is confirmed *in* 1. *Epid. Sect.* 1. *Ægr.* 1. where *Philiscus* the fifth day had all his extreme parts cold, which did no more afterwards wax warm, the sixth day he dyed: *So ægr.* 1. *of the same sect. Silenus* the sixth day had all his extreme parts cold and blew, the seventh day they recovered not warmth again, and the eleventh he dyed. So *ægr.* 8. *of the same sect. Erasinus* the fifth day about noon had all his extreme parts cold and somewhat blew, and the same day about sunset he dyed. Also. 3. *Epid. Sect.* 2. *ægr.* 11. The woman which after an abortion was taken with a Feaver had all her extreme parts cold from the fourth day to the seventh, in which day she dyed; yet sometimes that coldness of the extreme parts not lasting, nor often returning, uses to be good, for it shews that the Crisis is at hand, at which time the heat is called back to the internal parts to expel the cause of the disease; as happened to him that lay sick in the garden of *Dealces*, 3. *Epid. Sect.* 1. *Ægr.* 3. who the seventeenth day had all his extreme parts cold, afterwards an acute Feaver, and a sweat over his whole body, and recovered.

Coldness of the nostrills continuing all the time of the disease, in little children is mortal.

Coldness of the tongue continuing some few dayes is mortal, as was observed in three sick persons, in whom no other extraordinary symptomes appeared, but a certain languishing of the strength.

Those who are often hot and cold by turns, are in danger. 2. Prorrh. text. 32.

For thereby is signified an abundance of the morbifick cause, and the malignant quality thereof, against which nature enters the lists in vain, whence follows a dissolution of the natural heat, and at length death it self. As. *Hipp.* notes in 3. *Epid. Sect.* 2. *Ægr.* 12. where a woman was troubled with a shaking cold fit, the seventh day had an acute Feaver, about evening her extreme parts waxed cold, she waxed warm no more, at night she had a shaking fit again, but yet her extreme parts waxed not warm, the tenth day they received warmth, on the eleventh they grew cold again, on the fourteenth she dyed: and so 3. *Epid. Sect.* 3. *Pythion* the second day had a refrigeration of the extreme parts, after some time they waxed warm again, on the third day they grew a little cold again, the fourth day they grew cold, and after that warm again; on the eighth day he had a coldness in the morning, at evening he waxed warm again: on the tenth he was very cold, had an acute Feaver, much sweat, and dyed.

The *second*, Hardness. *The skin of the face and other parts being hard, rough and squallid, shew evil.*

For in acute diseases it denotes a great driness caused by the heat of the Feaver; but

but in diuturnal Feavers it shews a great consumption of the natural moisture, as in Hecticks. So 3. *Epid. Sect.* 3. *ægr.* 15. in the wife of *Dealces*, on the seventeenth day she had a dry stretching of the skin, and the one and twentieth day, dyed. And *ægr.* 16. *of the same sect.* in the young man of *Mœlibea*, on the tenth day his skin was dry, and stretched out, and the twenty fourth day he dyed.

An extraordinary softnes of skin in any disease is evil.

For in acute diseases it signifies an extraordinary putrefaction which causes the parts of the body to flag, as appears in corps killed with a pestilent feaver. In chronical diseases it shews an abundance of flegme dispersed over the whole body, as happens in a leucophlegmatia or dropsie arising from white flegme.

An intense redness of the face with sadness is evil. 2. Prorrh.

The colour, redness of the face, simply considered is not evil, for it shews sometimes the near approching of the Crisis by a flux of blood; as *Galen* by this signe foretold of a Roman youth in presence of other Physicians. But then the signes also of concoction ought to appear; but if while the disease is raw, the face appear very red, there is much fear of an inflammation, and especially of the head and brain; for by this signe it is apparent that the blood is carried up into the head, and there inflames it; which causes sadness to precede the phrensie, because that blood being burnt up by excessive heat turns to the nature of choler, as *Galen* teacheth in *his comm.* in these words; *when therefore the colour of the face appears fresh, and the patient is very sad, there seems to be a certain hot affection in the brain, which burns up the blood, and for that cause, as is demonstrated, begets black choler.*

Intense and as it were erysipelatous redness appearing in the head and feet in acute diseases, with good signes are good, with evil, bad.

If they appear with good signes, they shew that nature is very strong, and able to expel the noxious humors to the ignoble parts, whence that is to be esteemed a laudable change which the ease of the patient necessarily followeth but; if they appear with evil signes, and the sick person be no whit alleviated it is to be thought that the humors are stirred up by access of new forces, *viz.* by a multiplication of that phlegmonous quality which oppresses the entralls.

An extraordinary paleness, chiefly in the face, is evil.

For it shews either a violent withdrawing of the heat to the inner parts, or an extinction thereof, or want of blood; which is the reason that that colour appears in the carcasses of deceased persons.

A blackness and blewness of the whole body, face, or extreme parts, is evil.

For it is caused through an extinction of the heat in those parts, as *Hipp.* teaches. 2 *prog. if the body be in such a condition that the nails and fingers are blew, death is presently to be expected.* But that blewness is alwaies accompanyed with a coldness of the extreme parts, as you may see in the examples of *Philiscus*, *Silenus*, and others, for the coldness of the extreme parts above recited.

Black and blew flesh on a bone diseased is bad. Hipp. Aph. 2. Sect. 7.

By a *diseased bone* Hippocrates means that which is affected with a wound, ulcer, or rotenness. Now the flesh grows black and blew in wounds or ulcers, either through the extinction of the heat, some gangrene or syderation, by reason of the greatness of inflammation, or through some bruise. And therefore when the flesh of a corrupt or violated bone looks black and blew not caused by any bruise or syderation, it is a certain signe of putrefaction, which extinguishes the natural heat; and therefore that bone is to be cut off, or otherwise taken away.

To change colour often in acute diseases is evil.

We say that bodyes do then *change their colour* when from their proper native colour

colour, they turn to pale, white, or yellow, rusty, green, leaden or black. But this often changing of colour shews that nature is very much oppressed, and that there is a great redundancy of evil humors.

If the jaundise happen to the patient in a Feaver before the seventh day, it is evil; but if on the seventh, *or ninth, or eleventh, or fourteenth, it is good, unless the right hypochondrium grow hard.* Aph. 62. and 64. *Sect.* 4.

These words of *Hippocrates* are not so superficially to be understood, when as many have been known to be sick of the jaundise before the seventh day, and yet have recovered. It is therefore to be understood that by *before the seventh day* is meant, before the concoction of the matter causing the disease, which if it be preceded by the yellow jaundise, is evil, as *Hipp.* saith, because such a motion is symptomatical; but if the matter causing the disease be concocted and vanquished before the seventh day, nature then driving it to the skin, which begets the jaundise, it betokens the health of the patient; which *Hipp.* confirms in his *fourth book concerning the diet of sick persons. In a cholerick feaver*, saith he, *the jaundise coming with a coldness before the seventh day, dissolves the disease; but if it come unseasonably without that cold, it is mortal.* Yet we must know that *Hipp.* spoke therefore of the seventh day, as being the first prefixed time of a good and wholesome jaundise; because it seldome comes to pass, that the matter of cholerick feavers is concocted before the seventh day, at what time nature expels it to the skin, and causes the jaundise: whence it appears that the choler is thicker then to be voided by sweat. Therefore *Hipp. in this Aph.* speaks of that as most often happens, though it may sometimes otherwise come to pass. But a jaundise which comes in the seventh, ninth, eleventh, or fourteenth, being critical dayes, is good, because it follows a good concoction, if there be no hardness in the right hypochondrium. For that hardness discovers an humor in the liver, which streightens the vessels that serve for the expurgation of the choler, or else obstructs them, which causes an overflowing of the cholerick humor into the habit of the body. But if there be no swelling in the liver, the jaundise is made by the expulsion of the choler causing the feaver into the habit of the body. To this signe these that follow are to be added, that in a critical jaundise, the urines be not so coloured as to die the linnen cloths that are dipt therein of a yellow colour, neither doth there appear any white dregs, as in a morbous jaundise; as also that thereby the feaver is quite dissolved, or at least much impaired.

The smell. *A vehement stink exhaling from the body of the patient is evil.*

For it signifies a great corruption of humors, which exhales and sends forth stinking vapours from all parts.

When in acute diseases the patient smells unwonted sents, there being nothing that may give any such sent at hand, as the smell of fish, dirt, butter, or such like; if there be also other evil symptoms, death is near, as Avicen testifies.

Noise. *A ratling or snorting in acute diseases, which the patient doth make both sleeping and waking as he draws breath, is mortal. Ratling or snorting breath is caused when the sick person is sensible of a kind of ebullition, boyling, or noise in his throat like to that of snorting.* This uses to appear in all that die of an acute disease, for one or two daies before they depart, especially in such as die of a pleurisie or peripneumony; for it shews that the expulsive faculty is altogether extinguished, that it is not able to drive the excrements from the windpipe, and the jaws. Therefore whatever sick person in the increasing of the disease is subject to such a snorting, he is next neighbour to death. But sometimes this snorting happens at

the beginning of diseases, *viz.* of the pleurisie, peripneumony, and rheumatick feaver, by reason of the defluxe of humors to the windpipe and lungs: and then it is not necessarily mortal, because in the progress of the disease, that humor may be expelled and dissipated, as in those that are troubled with *Asthmas*, in whom this snorting is usual without danger of life. And because this snorting or ratling appearing in the beginning of the diseases is sometimes mortal, sometimes not, it is to be understood, that that which is least dangerous decreases as the disease increases, and at length, ends for altogether, the humor being either expelled by cough, or dissolved by the heat of the feaver: but that which is mortal continues obstinately, and increases by little and little; which shews that nature is oppressed by the multitude of humors, and cannot expel them, but the patient must be suffocated by them.

Where the meat descends into the stomach with a noise as if it were cast into a well, it is an evil signe.

For it shews that the fibers of the Oesophagus are resolved that they cannot contain the descending nourishment, and as it were hand it to the stomach, as is done in the natural swallowing of the meat.

A murmuring noise in the hypochondrium, breaking forth chiefly with dung, urine, and wind, dissolves the pains and swellings in the hypochondriums, if they be new and without flegme. And if it do not come forth, yet it helps much, if it fall down to the lower parts. 2. prog.

Tumours of the *Hypochondriums* which are often joyned with acute diseases, if they be new and without a phlegmone (a phlegmone is discovered by the heat and beating of the part) then are they produced by wind. They shew some contumacy if they have a firm and fixt pain: but it is a very great signe of health, when the patient breaks and voids wind upward or downward, in belching, his stool, with or without dejection of excrement, and with his urine. When wind coms forth with urine it is known by the froth swimming at the top thereof; although the wind do not break forth, yet if it fall downward with a noise, it is a good signe, and indeed it is the beginning of health, because the heat of the members begins to dissipate the wind, and the members are not so extended but are constrained to expel the wind, which is the first beginning of the victory.

Proper accidents. In the face. *A cadaverous face is deadly, yet that least which comes to be so through great watchings and loosness. And such a kind of corruption arising for those causes comes to an end in one day.* 2. Coac. c. 5.

This face which *Hipp. calls cadaverous*, as it is like that which appears in dead carcasses and those persons who ly at the point of death, is vulgarly called *Hippocrates face*, because it is so exactly and as it were with a pencil by him described 2 *Coac. and* 1 *prog.* in these words. *His countenance was of this nature, his eyes hollow, his nose sharp, his temples fallen, his ears cold and contracted, the skin of his forehead hard, stretched, and dryed, the colour thereof pale or black, blew or leaden*; all which things proceed from most pernicious causes: for the parts of the face are either truly lean, the substance thereof being consumed; or else it hath a seeming leanness, caused by a withdrawing of the spirits and blood. For they give a lively and fresh colour to every part, and a moderate moisture, which falls away when these are withdrawn; then also there is an external cold, that presses down the several parts, causing a greater extenuation. The heat which is most intense and malignant causes a consumption of the flesh. But the withdrawing the spirits and blood from the several parts is caused by the great weakness of the natural heat, that it cannot recruit it self again;

or

or by reason of the great fire within, which draws the bloud and spirits to it like a cupping-glass. And therefore all th ose great causes of extenuation which appear in the face, are very bad, and those particles which *Hipp.* hath reckoned up are most capable of extenuation. For the eyes are very fat and full of spirits, which causes them to swell and hang out; if therefore that fat be consumed, and the spirits be exhausted, the eyes fall down, leaving the places which they did possess for the most part empty, which makes the eyes hollow. In the nose the end or point onely somewhat thick, for the other parts are bones, gristles, and skin without flesh. In the tip thereof onely are certain thin and fleshy fibers produced from the muscles that move the cheeks; and therefore in that part of the nose doth chiefly appear the extenuation caused by the disease; the hollowness of the temples are full of very moist muscles, which is the cause that greyness begins usually at the temples, which moisture is quickly diminished by the above mentioned causes. The ears are not without reason cooled though the weakness or retreat of the natural heat, both because they are extreme parts & remote from the fountain of heat, and also because they are without flesh, being onely composed of gristle and skin; the tips of them also are contracted, and the skin of the forehead stretched drie and hard, by reason of the drought caused by consumption of the moist *parts*; as skins which being dryed are contracted and shriveled up together. The pale colour, black or blew, proceeds from the withdrawing or exolution of natural heat and spirits, whence these refrigerated parts receive that colour. In the last place *take notice*, that this death resembling face that shews it self by the above mentioned signes, is most pernicious if it be produced by the internal causes before described; for if it proceed from procatarctical causes it is less dangerous, as *Hipp.* notes in this theorem, where he reckons only watching and loosness of the belly; but we may adde to that other procatarctical causes, as the effect of nourishment, sadness, and fears. And it may be easily discerned whether it depend on these outward causes, for then the symptome lasts but one day, & presently the patient returns to his former state.

In the eyes. *You must well consider how the eye is affected when the patient sleeps; for if there do appear any thing white under the eyelids being half shut, if it proceed neither from physick, nor any loosness of the belly, tis an evil signe, and very mortal.* Aph. 52. Sect. 6.

When the sick person sleeps with his eyes half shut, so that you may perceive underneath a certain whiteness, it shews a very great weakness of the animal faculty; for if the eyes, the closing of which is the easiest work of the faculty, be shut in sleeping, it signifies a very great impoverishment of the animal spirits. Therefore it is a deadly signe, if such a resolution be produced by the strength of the disease; but if it proceed from any evacuation, either natural or procured by art, or any outward cause, by reason that that may be repaired again, this half shutting of the eyes is not so dangerous. *Hipp.* also adds another caution *in* 1. *prog.* That is, if the sick person were not wont to sleep in that manner; for it is usual with some to sleep with their eyes half open. This symptome is of great use in acute diseases of the head, whether with or without a feaver, because the eyes are next the brain, and as it were joyned to them, and so consequently most certainly declare the affections thereof: but in other diseases they denounce not danger so surely. For children that are troubled with the worms do frequently sleep with their eyes open, and are easily recovered. This affection proceeds not always from an impairing of the strength, but sometimes from a convulsion of the muscles moving the eyes, as *Galen* teaches *in his Comm. on this Aphorisme.*

If in an acute disease one eye groweth less then the other, tis mortal. Hipp. 1. progn.

For it is caused by a weakness of the faculty governing the eye, which now begins to desert its office; but it would be much worse to see both the eyes extenuated, by reason of the weakness of the same faculty. But this extenuation begins to ap-

pear in one of the eyes, for seldome it is that both eyes are in the same condition. For so a consumption that is about to afflict the whole body uses to begin to take its rise from one or two members, and thence to creep to the rest, and thence to the rest, as they are more or less prone to receive it. Yet you *must observe* whether this extenuation proceed from any particular disease in the eye, and not from a weakness of the faculty, then it speaks no danger at all.

If in acute diseases the white of the eye appear red, tis evil. Hipp. 1. progn.

For it shews either blood or choler translated to the brain, whence an inflammation and phrensie the product thereof is to be expected, which threaten much danger to life. For the tunicle that constitutes the white of the eye arising from the membranes of the brain, the inflammation of them is easily communicated to the tunicle.

If in an acute disease the veines of the eyes appear black or blew, it is a mortal signe. 1. prog.

For either it signifies that adust and atrabilary humors abound in the brain, or else an extinction of the natural heat, which hath caused the blood to lose its native colour, and to acquire concretion.

If the eyes are perverted in an acute disease, it is evil. 1. prog.

The eyes are said to be *perverted* when they move out of order and decorum, that is, either more upward then they ought, or more downward, or more to one side then the other; as also if one move upward and the other downward, or if one be drawn to one corner, and the other to the other. Which distortions of the eyes are caused by the convulsions of the muscles that move the eyes, as comes to pass in a fit of the epilepsie, though there they are not dangerous.

But convulsions happening in acute diseases are very pernicious; eyes dark, muddy, galled, and not shining, are evil.

For the cause of these evils comes from a defect and extinction of the animal spirits, which are clear, and cause a shining in the eyes; also from an extraordinary drineſs of the tunicles that compose the eye, but more especially of the *corneous* tunicle, as *Galen* teaches 1. *of the cause of symptomes. and* 10. *of the use of the parts.*

In the eyebrows, nostrils, and lipps. *If the eyebrow be distorted, or black and blew, or pale, or the lipps or nose, with any other bad symptomes, know, death is at hand. For tis a mortal signe when the lipps hang loose, and are cold and white.* Hipp. 1 prog.

Of the same opinion is *Hipp. Aph.* 49. *Sect.* 4. in these words. *In a Feaver that intermitts not, if the lip or eyelid or eyebrow, or the nose be distorted, and the sick person do neither see nor hear, the body being already weak, death is near.* For all this is caused by the convulsion of the muscles moving these parts, which in acute diseases are mortal, as hath been shewn. Now the eyebrows become pale, or black and blew, through an extinction of the natural moisture. The hanging and looseness, coldness, whiteness of the lips do also shew a weakness of the moving faculty, and an extinction of the natural heat.

The nostrils dilated more then ordinary in an acute disease portend danger.

For they signifie a great weakness of the animal faculty, which not being able to dilate the breast sufficiently, to temper the extraordinary heat, endeavours to compensate that defect by widening the nostrils to let the air in more freely.

In the teeth. *To make a noise and grate with the teeth in feavers where it hath not been a custome from their youth, portends phrensie and death.* 2. prog.

This very rule *Hipp.* repeats *in* 2. *prorrhet.* in these words; *to make a noise with the teeth is pernicious, where it was not used in time of health.* But *Galen in* 2. *prog. To make a noise with the teeth,* saith he, *where it hath not been before a custome, is a signe of future madness; but if the patient at the same time be mad, and make a noise with his teeth, believe him not to be far from death.*

This

This noise of the teeth is caused by the convulsions of the muscles moving the jaw bones, or a weakness of the moving faculty; which soever it is, in acute diseases it signifies a great distemper of the brain, to which tis very likely that madness will succeed, when as madness is nothing but a distemper of that faculty which is predominant in the brain, which increasing, death must follow of necessities. But madness useth to succeed that noise of the teeth that makes a great sound, sooner then that which causes but a little sound. For that may be through a weakness that may bring death without madness: but the other is by convulsions, which proceed from malignant vapours, such as arise from black choler invading the brain and nervous parts.

Those who in feavers have a slimineſs and blackneſs about their teeth are in danger.

For it shews abundance of crude and thick humors, and a mighty heat of the feaver which dryes and burns up those crude and thick humors.

In the tongue. *A black tongue with drineſs, roughneſs, clefts, and burning, is mortal.*

For all these proceed from a very hot and burning feaver, through the force of which the tongue grows very dry, and receiving those aduſt vapours that rise from the heat of the bowels, it becomes like a chimney all footed with blackness. From aless heat proceeds drineſs and roughness, but from a more vehement proceed the clefts, as when the earth parched by the heat of summer, revolts into chinks and divisions. The tongue burnt and scorched at first, shews an inflammation of some one of the bowels, which is perceived by the pain, hardness, swelling, and heat of the *Hypochondriums*.

A trembling tongue in acute diſeaſes is mortal.

For it signifies a weakness of the animal faculty, and a high distemper of the brain, and therefore in mad people about to dy the tongue is seen to tremble in this manner. Which *Galen* makes very apparent *in* 1. *Prorrhet. text.* 19. in these words. *Therefore a trembling in the tongue happens from a weakneſs in the animal faculty proceeding from a dry diſtemper. The drineſs of the muſcles thereof, joyntly affected with the head, ſucceeded by convulſions, as the voice trembles through the weakneſs contracted from the imbecillity of theſe parts. But all theſe foreſaid ſymptomes which proceed from a more intenſe drineſs of the head, portend a diſturbance of the mind.*

In the jaws. *when the jaws are exulcerated with a Feaver, tis an evil ſigne; and if there happen any other of theſe ſymptomes which we have ſaid to be evil, then conclude the perſon is in danger.* Hipp. 2. prog.

The jaws are wont to be exulcerated, either by a sharp distillation flowing from the head, or when the whole body is full of ill humors, in a burning and pestilent feaver; Whereby it happens to most of those who ly sick of the pox or leprosie, that their jaws are exulcerated. But in acute diseases, of which we now onely discourse, for the most part the seat of the evil is in the breast or *Hypochondriums*. Now the jaws lying in the way that leads from the lungs and from the stomach, they receive all the vapours that ascend from those places, which if they be sharp, they exulcerate them. And therefore in those kind of feavers, these places ought to be observed as much as the tongue; for it shews the vehemency of the feaver in the same manner: for as in a burning Feaver the tongue becomes dry, & divided into many clefts, if it be vehement; so likewise ulcers in the jaws are caused if the Physician in the heat of the Feaver be not the more diligent in the use of those things that allay thirst. Now if the Physician omit not those helps, and the jaws become ulcerated, it is a sign of more violent heat. And therefore well said *Hip.* that it was evil, yet not so evil as to be a symptome of death without other signes. For it may be that by reason of some distillation accompanying the Feaver, that

the

the jaws may be exulcerated, which is not so evil, as that death may be presaged from this onely signe: but if the exulceration of the jaws proceed from any great distemper of the inferior parts, it is very dangerous; but then also there must of necessity be many other evil signes joyned with it. And therefore you must observe the other signes, and if any of them be evil, you may then foretel death. *Valesius* gives a great commendation of this symptome; I, saith he, *can testifie, that this signe is to be valued, and that I have seen many in whom the feaver hath seemed slack, yet have they dyed with this distemper. That which is worst is when it brings a loathing, so that they can take nothing down, detesting the very drink it self, though they be almost parched up: in this distemper I have conceived that all the internal parts from the throat to the very stomach have been exulcerated.* Thus far *Valesius*. But we have a thousand times seen those exulcerations and inflammations of the jaws in those pestilent feavers that were so popular some few years agoe, and infected chiefly the kings camp. They appeared for the most part at the beginning of the disease, so that they were vulgarly accounted the pathognomical symptome of that disease. Whence it is to be conjectured, that they are generated by an evil and malignant humor.

In the Hypochondriums. *These Hypochondriums are best that are without pain, soft and equal, both on the right and left side.* 1. prog.

By the Hypochondriums are meant all that region which is between the midrif and the navel, in which the liver, stomach, and spleen are contained. The handling of this part is not to be despised by the Physician in diseases, for it makes much for prognostication. And indeed the Physician should every day diligently feel the Hypochondriums, in imitation of *Hippocrates*, who was wont to use it much, *in* 1. *Epid. Sect.* 1. *Ægr.* 8. where he saith, that *Silenus* the third day had a distension of the Hypochondriums, by which he intimates that he had felt it the former dayes. And therefore the Physicians ought to be very diligent daily to know the state of the Hypochondriums, there being the seat of the natural faculty, *viz.* of the natural bowels, where all the power of life and death is seated, and in which as in a Theatre all the duels of nature and the disease are fought, which ought to be accurately observed by the Physician. Therefore in acute diseases, for the Hypochondriums to be in a good condition, affords no contemptible hopes of a good event; for it is impossible that any of those parts should be distempered, and the Hypochondriums be soft and without pain. Then ought there to be an equality both on the right and left side, which equality ought to be in all the accidents, as heat, softness, and bulk; for such are the Hypochondriums that appear in healthy men.

A burning Hypochondrium, or painful, or extended, or having the right parts unequally affected with the left, is a signe of no gentle disease. Hipp. 2. Coac. and 1. prog.

A burning Hypochondrium, and abounding with much heat, is caused by the multitude of hot humors putrifying in that place. Pain and distension are produced from the same causes filling the parts, and producing an evil distemper in them; or else driness is introduced by the overmuch heat which causes the distension. They are said to be unequally affected on either side, when they are here hotter, there colder, here harder, there softer, here smoother, there rougher, here more, there less distended, here painful, there without pain; all which things shew that some of those parts are inflamed, and ill affected, which happens often in acute feavers.

The Hypochondriums to be drawn upward, there being no signes of an approching Crisis by bleeding, is evil, the critical bleeding being nigh.

It happens sometimes that the Hypochondriums are drawn upwards by the flowing up of the humors, by the force of the liver contracting it self, and shak-

ing

ing them off, which happens notwithstanding without pain, and endures but a small while, there being other signes of a future bleeding; But if this revulsion of the Hypochondriums stay long without any signes of future bleeding, it is mortal; for it is caused by an inflammation, or exsiccation proceeding from the feaverish heat of the midrif or the membrane that covers the ribs, which parts being contracted and shriveld up draw with it the peritoneum and the Hypochondria, which are to knit to them. The certain symptome of this accident is a shrill voice, which before was big; for the change proceeds from the contraction of the *Diaphragma*; whence *Hipp. in Coac. They who have a shrill voice have their Hypochondriums drawn and shriveld upward.*

A hard and painful swelling in the Hypochondrium is very bad, if it be all over the Hypochondrium; but if it be in one part, it is less dangerous, being in the left. Hipp. 1. prog.

A hard and painful swelling proceeding from an inflammation portends very great danger, if it possess the whole Hypochondrium; if the right side onely, less; if the left, least of all: the reason of this is evident; for t is most pernicious to have all the bowels inflamed at once in an acute disease. Now the liver being placed in the right part; in the left, the spleen; tis most certain that this vehement affection is less dangerous in the spleen then in the liver, which is the more noble bowel.

A swelling in the legs appearing about evening, and dissipated in the morning, with good signes is good, with evil signes evil.

This swelling of the legs happens often in those that are recovering; But if the signes of recovery appear not, but other evil signes, it threatens a dropsie, or some other evil disposition of the liver: for it hath sometimes appeared when there hath been an ulcer in the liver.

CHAP. III.

Of the manner how a disease will end, whether by Crisis, or by a leasurable dissolution.

ALL diseases come to an end either by Crisis, or by a leasurely dissolution.

Those are ended by Crisis that are reckoned among the chronical diseases, or which have no magnitude.

The signes that distinguish a great and acute disease or a chronical and small one, are the same, and denote whether the disease will end by Crisis, or by leasurely dissolution; which were handled in the discourse of symptomes, and to be fetched thence.

CHAP.

CHAP. IV.

Of the time when the disease will end, wherein the day and hour of the Crisis is foretold.

THe time of the Crisis is known chiefly two wayes, by the acuteness of the disease, and the signes of concoction, which shall be made plain in the following theorems.

The difference of acute diseases. *Diseases simply acute use to be judged upon the fourteenth day; peracute ones upon the seventh day; and those that are most peracute on the fourth day.*

These differences of acute diseases we shall know by the vehemence and quickness of the symptomes: for if presently on the first day the symptomes increase, gaining strength and violence, the disease will be most or extremely peracute, and will be judged the fourth day. But if they gain strength & violence the first quaternary, and not presently on the first day, that will be a peracute disease, and will be judged the seventh day. But if the vehemence of the symptome appear upon the second quaternary, and in the beginning of it, the Crisis will be expected the fourteenth day. If after the seventh day the violence begin to rage, judgement will be made on the twentieth or twenty one.

Here it is to be *noted*, that those Crises do not seldome prevent the days of judgement, or retard them, according to the fluidness or obstinacy of the matter, and are perfected on judicatory dayes, which also are somewhat judicatory: and thus may these be known; when the vehemence of the disease either begins either a little too soon or too late; as for example, when the violence begins in the beginning of the second quaternary, that is on the fifth day, the Crisis will be lookt for on the fourteenth. But if it begin on the sixth or seventh, expect the Crisis upon the seventeenth day. But there is required in this a very diligent exercise perfected by the use of art.

If signes of concoction appear in the first day of the disease, the disease will be judged the fourth day; if on the fourth, then the Crisis will come upon the seventh. If on the seventh, judgement will be made on the eleventh: If on the eleventh, the day of Crisis will be the fourteenth; and so of the other dayes, computing the quaternaries or septenaries according to the nature of the disease.

The signes of concoctions are to be seen in another place; of which the chief in feavers is the sediment of the urine. *Note* here that in observing the signes of concoction you must take along with you the vehemency of the symptomes, that you may thence make a certain prognostication.

But the approch of the Crisis is easily known from the perturbation that precedes it; for when the combate between nature and the disease begins, then the symptomes are chiefly exasperated. Which Hipp. *intimates* Aph 13. Sect. 2. where the Crisis is made, the night before the access of it is troublesome.

Lastly, the hour of the Crisis may hence be artificially presaged; suppose that every Crisis is made in the height and vigour of the disease, when therefore we know when the disease is at the height, we may easily perceive the hour of the Crisis. Again, if the disease use to have any fits or exasperations, we first note the hour of their coming, and the time of their stay, and at what hour the vigour and height of that fit prevails most; for it being certain that the Crisis comes in the heat and vigour of the disease, and exasperation thereof, those being diligently found out, not onely the day, but the very hour of the approching Crisis may be foretold.

CHAP.

CHAP. V.

Of the place where the Crisis will appear; and first of the signes of the Crisis approching by vomit.

EVery critical evacuation is made by vomit, by flux of the belly, by sweat, by urine, bleeding, in moneths, hemorrhoids, or abscessions, the signes of which being fetched from the mentioned heads shall be declared in the following theorems; beginning with vomiting.

Actions and visions. *Dark apparitions presented to the eyes foretel an approching vomit.*

For they shew that the matter causing the disease is heaped up in the stomach, which sends up vapours in great plenty to the head, that causes those dark visions.

A sharp and pricking pain in the head foretels vomiting.

For that pain being excited by the foresaid vapours, they with their acrimony bite the filmes of the brain.

A griping at the mouth of the stomach foreshews vomiting.

Motion. For it is caused by the foresaid vapours pricking those parts.

A stifness and coldness of the Hypochondriums fortels a speedy vomiting.

For it is caused by the said vapours gnawing those parts.

A trembling of the lower lip shews approching vomit.

For it is caused by a sympathy of the inner tunicle of the stomach with the mouth and palate.

Frequent spitting shews immediate vomiting.

Excrements. For they proceed from the sympathy of the mentioned tunicle, and the compression of the stomach, which sets it self in that manner to its work.

A Corollary.

Note that most commonly after critical vomiting there follows a loosness, which puts an end to the disease, and scowres away the reliques thereof.

CHAP. VI.

Of the signes of the Crisis by loosness.

THe Crisis which is made by loosness hath not very plain and manifest signes, yet may it be known partly by the signes which shall be set down, and partly also by the want of those signes which usually shew other Crises. For the knowledg whereof observe these following theorems.

Those who are troubled with frequent belching, followed by much wind coming from the belly with a great noise and a kind of swelling thereof, must expect a sudden loosness.

For all these shew a translation of the matter that causes the disease into the guts.

Pain of the loyns with other signes joyned to it, foretel a sudden looseness.

For when the noxious humor is carried through the mesaraical veins into the intestines, it communicates a pain to the loyns by the continuity of the mesenterium that draws its original from the ligaments that knit together the joynts of the loyns.

Those whose Hypochondriums being lifted up have a murmuring sound with a pain in the loyns, will have a looseness, unless flatulencies break forth with a great quantity of urine: but this is onely in feavers. Aph. 73. Sect. 4.

When the region of the Hypochondriums swels and makes a noise, it is a signe that the humour and wind doth abound in that place: to which if a pain in the loyns succeed, that humour and wind creepeth downward; which causes a loosness, or at least an eruption of wind from the seat, unless that humour be voided by urine.

A Corollary.

Note that a better conjecture may be made, if the belly were open all the time of the disease, or appeared more loose on the indicative day then at any other time.

CHAP. VII.

Of the signes of an approching Crisis by sweat.

ACute diseases are more frequently judged by sweat then by any other evacuation. And therefore we shall be more exact in searching out the signes of sweat, of which the following table will afford an easie knowledge, being noted with the letter *M*.

The signes that shew the approching Crisis by sweat, are taken either from the
- Essence.
- Causes which are either
  - Efficient
    - External
      - The air.
    - Internal
      - Humors.
  - Material
    - The body of the patient.
- Effects, which are either
  - Actions
    - Animal
      - Coldness.
    - Vital
      - Pulse.
    - Natural
      - Suppression of urine.
  - Excrements.
  - Change of the qualities.

From

From the observation of the series of this table we shall propound these theorems following.

The essence. *Most acute diseases are judged most commonly by sweat.*

For that proceeds from a cholerick humor, hot and thin, easily expelled through the habit of the body.

The efficient causes, the aire. *In a hot and moist constitution of the aire diseases are terminated most commonly by sweat.*

For by a hot and moist temper of the aire the pores and passages of the body are loosened and opened, and the humors are renderd more fluid; so that they are more easily purged forth by sweat.

The humors. *whatever diseases are produced from a hot and thin humor, are judged by sweat.*

So cholerick feavers are judged for the most part by sweat, because the thinness and heat of the humor is more easily expelled by nature by that way of evacuation.

The material cause; the body of patient. *whoever in their sickness have a soft and loose skin, have their diseases more easily judged by sweating.*

Effects; the animal actions. Coldness. Whether that loosness and softness of the skin proceed from the natural disposition of the body, or the constitution of the aire, they avail much to perfect the Crisis by sweating.

A coldness or shaking in continual Feavers shew that the Crisis will be performed by sweat.

For those humors being thin when they are carried by the veins to the habit, with their sharpness they bite the membranous parts of the body, and so cause a shaking.

Vital. Pulse. *A soft and fluctuating pulse in feavers, foretels sweat to be naer at hand.*

For when the more thin parts of the urine endeavour a passage through the body, they moisten and soften the arteries, which causes a moist and fluctuating pulse, which is the forerunner of sweat.

Natural. *Suppression of urine. Suppression of urine in feavers shews the Crisis near at hand by sweat.*

For when the matter of sweat and urine are the same, *viz.* the serous humor, while they are carried to the habit of the body, it follows consequently that the urine must be suppressed, or be much lessened in quantity.

The excrements. *If a hot vapour be perceived to arise from the body of the sick patient, or a slight kind of dew, it shews the approch of the Crisis by sweat.*

If contrary to custome, the external parts of the body of the sick person grow hot, or the face grow red, it shews the Crisis is approching by sweat.

These two last signes shew that nature endeavours a passage to the habit of the body, by which she may expel the noxious and preternatural humors.

CHAP. VIII.

Of the signes of future Crisis by Urine.

THe signes of future Crisis by urine are very few, yet they may be known partly by some particular and positive signes, partly by the absence of others; For if the signes do appear which do demonstrate in general the approch of the Crisis, and that there be no symptomes of vomit, flux, bleeding, or sweat, then may you conjecture that it will come to pass by urine.

But those signes which do particularly demonstrate the coming thereof are set down in this order; which are notwithstanding to be collected together, that we may thence have some certainty to make a judgement.

They are these.
A cold constitution.
Old age.
Thickness of the skin.
Frequent pissing, or a greater quantity of urine appearing upon the symptomatical day.
A heat or itching in the extreme parts of the privities.
A heavines in the Hypochondrium.

The three first signes concern the impediments which are in the external parts of the body, which hinder the serous humor from purging forth by sweat.

But when the same matter which flows out by sweat, may also be easily purged out by urine, there being a stoppage in the passages for sweat, we may conjecture that the excretion will be by urine. The three last signes shew that the humors do descend to the passages of the urine.

CHAP. IX.

Of the signes of future Crisis by bleeding.

THe following rules foreshew the approch of bleeding.

The Essence. *Inflammation of the hypocondriums are for the most part allayed by bleeding.*

And in this manner of solution doth all the hope of safety consist, which if it happen not, death may be presaged.

The assisting causes. *Bleeding uses more frequently to happen until the twenty fifth year, then after that time, in a sanguine or cholerick constitution, in the spring season, and at the time of southern winds.*

The Effects. *From the effects, which are taken either from the impairing of the actions, or the excrements, or the change of qualities, proceed these signes of future bleeding.*

Dreams and images of red things.
A frequent pain of the head and neck.
Heavines in the temples, and a great pulse in their arteries.
Tingling or sounding in the ears.
Dimnes of the eyes, and a kind of lightning before them.

Redne

Redness of them and almost of all the face.
An aversion to the light.
Involuntary teares.
Itching of the nose.
A drop of bloud upon the symptomatical day.
Difficulty of breathing.
A stretching of the Hypochondriums without pain.

When the bloud begins to be carried up to the head, it begets phantasms or appearances of red things, both by dreams, and in awaking: As happened to a Roman youth of whom *Galen* makes mention. For he labouring with an acute disease, thought that he saw a red Serpent running about the roof of his chamber, which caused him suddenly to leap out of his bed; from whence *Galen* foretold bleeding, and forbid the letting bloud, which other Physicians had prescribed. Pain in the head and neck proceeds from the same translation of the bloud to the upper parts, which by griping and distending the membranes begets pain; the arteries beat through the extraordinary motion of the temples, being oppressed and streightned by the fulness of the veins. Tingling of the ears is caused by the ascending of the vapours in great plenty to the head. Dimness of the sight proceeds from certain thick and copious vapours which arising to the upper parts stop the passages, whence it comes to pass that they shuting out the animal spirits, the sight is dulled. That kind of lightning which hovereth before the eyes is nothing else but certain little thin and ragged bodies of several colours contained between the chrystalline and carneous Tunicle, produced from the vapours carried upward, which though they are within, yet deceive the sight as if they were without, when as the eye used to external objects, judges that to be without which is within. A redness of the face and eyes is caused by the bloud gathered in more abundance to those parts. The aversion from light proceeds from this, that the eyes being already distended with plenty of humors, are more distended by the light; because light scatters the spirits, which causes a dilatation of the eye, and thence pain, which that the sick person may avoid, he shuns the light. Involuntary tears are caused by a repletion of the eyes and parts adjacent, which being distended beyond measure, press the kernels containing the humors, which causeth tears. Itching of the nose is caused by the ascent of the vapours, which tickle the nose. A drop of bloud appearing on a symptomatical day, as the fourth or seventh, shews that the bleeding will be on the day of the Crisis, that is on the seventh or fourteenth, because nature begins to drive the humor to those parts upon those days. Difficulty of breathing is caused by the bloud, which when it is carried to the upper parts causes a compression of the diaphragma. The tension of the hypochondriums is caused by reason that the bloud begins to stir in its fountain, and in the roots of the veins; but that distention continues not, and is without pain; so is difficulty of breathing: for should they continue obstinately and long, they would rather portend an inflammation of the Liver.

CHAP.

CHAP. X.

Of the signes of future Crisis by the moneths and hemorrhoids.

A Future flux of the months and Hemorrhoids is known by the same signes; yet here lyes the difference, for if they appear in a woman wont to have monthly purgations, the flux comes through the womb. But if in a man accustomed to the Hemorrhoids, then we may imagin that the Crisis will be by the Hemorrhoids. But the signes common to either evacuation are these.

A pain and heavinesse in the loyns, and heat thereof.

A pain and distention in the hypogastrion.

A distemper at the mouth of the stomach.

When the blood descends to the lower parts, filling and stretching *vena cava*, it causes a pain, heavinesse, and heat in them; because the *vena cava* descending rests upon the loyns, from which place very great branches thereof are carried to the hypogastrium, which cause a pain and stretching in those parts. Whence also proceeds a disturbance at the mouth of the stomach, because of the great sympathy and agreement of the parts above the loyns and hypogastrium with the stomach.

CHAP. XI.

Of the signes of an ulcer.

THe following aphorismes do briefly declare when an ulcer will break out in any disease.

Such as are detained with long Feavers, have long swellings, and pains do arise in their joynts. Aph. 44. Sect. 4.

Those feavers are said to be long, which last above forty dayes; and are caused by a thick, cold and contumacious matter; and therefore because that matter cannot easily be evacuated by excretory cause, nature often expels it to the weaker parts, and there begets an ulcer.

Those who void crude and thin urine for a long time, if other symptomes promise life, an abscession is to be expected in the parts below the midrif. Hipp. 2. prog.

It hath been said before that the signes of crudity remaining for a long time, if the strength be impaired, portend death, because it is to be feared that the patient cannot hold out till the matter be concocted. But if the strength of the body is in a good condition, and other signes do promise a recovery, it is to be hoped that the patient may be cured, not by a perfect solution, but by permutation or abscession.

When the urine stops with a coldnesse, in such as are very sleepy it is a hopeful signe of ulcers near the ears. Hipp. Coac.

For that sleepinesse shews a great oppression of the brain, at which time coldnesse coming on produces either an ulcer or a great convulsion.

Those who are sick of a Feaver, having a wearinesse and faintnesse upon them, may expect an ulcer in their joynts, or about their jaws.

For

For a voluntary faintness in feavers proceeds from an abundance of thick and crude humors, and those feavers are most difficultly judged, and their judication is commonly by the breaking forth of an ulcer.

If on the patients recovery any part be distempered, tis a signe that some ulcer will break out there.

Not onely the pain which afflicts any part at the declining of the disease, but also all the symptomes that shew a weakness in the part, are signes of an ulcer thereabout.

Note from *Hipp. Aph.* 74. *Sect.* 4. that while the signes of an approching ulcer appear, if the urine be copious, thick, and white, it takes away all fear of an absceision, and that more certainly and speedily, if there happen a bleeding together with this kind of urine.

CHAP. XII.

Of the signes of those things which will happen to one already sick, or falling into a disease; and first of the signes of approching madness.

MAny things usually fall out in diseases besides the Crisis, as vehement symptomes, the changing of one disease into another; all which things if they can be foreseen by the Physician, gain him a very honourable esteem, and are of a special utility to the patient. Therefore we shall endeavour to lay down their symptomes, according to the foresaid method, beginning from the signes of approching madness, which are known by these rules.

Animal actions. Principal. *Forgetfulness presently happening in acute diseases foretels a phrensie.*

For it shews that the brain is affected, and that the matter causing the disease is hurried up thither from the lower parts.

Less principal. Sleep and waking. *Troubled and tumultuous sleeps foretel deliration.*

This *Hipp.* taught *in Coac.* in these words. *Turbulent and furious wakings out of sleep bring madness.* For they shew the brain to be very much affected, and unsetled from its natural condition.

Continual watching brings madness. Hipp. 2. prog.

For both of these affections are produced from the same cause, *viz.* from a hot and dry distemper of the brain; as *Galen* teaches in 4 *of presage by pulse.* A more remiss distemper causeth watchfulness, and a more intense one madness.

The hearing. *A tingling and sound in the ears, or deafness, often precedes madness, especially if it appear with urine that hath matter lifted up and hanging in it.* Hipp. 1. prorrhet.

For these things do shew that the noxious matter is carried up to the brain, which excites madness.

The sence of smelling too exquisite denounces madness.

For it shews an unwonted driness of the brain, and an attenuation of the spirits, which disposeth the brain to madness. Feeling vehement and continual pain of the head

head in acute feavers portends madneſs, eſpecially when it is obſerved moſt in the ears, or which is joyned with revulſions of the midrif; for it ſignifies that the humors are copiouſly carried up to the brain, and do vehemently diſtemper it.

Pain of the ſide, which with cholerick ſpittle vaniſheth away without any manifeſt cauſe, is a ſigne of madneſs.

For it ſhews a tranſlation of the cholerick humor from the ſide to the brain.

Pains in the leggs haſten madneſs, and that as well at other times, as eſpecially if there is a bad enæorema in the urine. Hipp. in Coac.

There is ſo great a ſympathy of the legs with the principal parts, that as in a ruptureof the heel, there do happen peracute trembling, ſobbing feavers which laſt but little, hot and mortal; ſo in the pain of the legs, which is cauſed by a malignant humor, there is a feaver ſtirred up in the heart, and madneſs in the brain, the peſtilent humors eaſily invading the brain. Now although theſe pains not onely of the legs but alſo of the thighs, back, and other ignoble parts do portend madneſs, yet they performe it more certainly, if ſoon after appearance they withdraw again, for they ſignifie a tranſlation of the morbifick matter to the brain, as you may ſee in *Hipp.* 3. *Epid. Sect.* 3. *Ægr.* 5. where *Calvus* on a ſudden had a pain in his right thigh, and no remedies prevailed; The firſt day he had a burning and acute feaver, and the pain increaſed; the third day the pain ceaſed, and a madneſs with much tumbling and toſſing enſued: the fourth day about noon he dyed in a vehement fit.

Vital affections. *A vehement and unfrequent drawing of the breath ſhewes madneſs.*

A vehement and rare drawing of breath is proper to mad people. *Hipp.* 1. *prog.* 24. For they having need of reſpiration by reaſon of the heat of the feaver, and forgetting to breath through the violence of the madneſs, it comes to paſs that they ſeldome breath, and the frequency thereof is made up by the magnitude of breathing: this is the opinion of *Galen* in his book *of the difficulty of breathing*, *chap.* 3. where he ſhews that a reſpiration of this ſort is proper to mad people: and *chap.* 10. *of the ſame book*, he ſaith that *Philiſcus* and *Silenus* had no other cauſes of ſuch reſpiration but madneſs: of *Philiſcus* and *Silenus* ſpeaks *Hipp.* in *Epid. Sect.* 1. *Hiſt.* 12. both of them at the firſt were troubled with a rare and vehement breathing, which was ſucceeded by a manifeſt madneſs in the progreſs of the diſeaſe.

Excrements. *White and clear urines in acute diſeaſes are manifeſt ſignes of madneſs.*

For they ſignifie that the choler that wont to be poured out with the urine, and to give a colour to it, is transferred to the brain.

Qualities changed. *If in an acute diſeaſe the white of the eye appear red, it portends a phrenſie.*

For it ſignifies that the membranes of the brain are inflamed, which inflammation is eaſily communicated to the adnate tunicle, which proceeds from them.

Proper accidents. If there be a pulſe in the Hypochondrium, it ſignifies diſturbance, or madneſs; but in this caſe obſerve the eye of the patient, for if there be a frequent motion of looking, raving is to be expected. When an artery beats ſtrongly in ſuch a place where it wonts not to be perceived, it ſhews a hot diſtemper, and that there is much hot wind carried through the arteries, which when it aſſaults the brain, it cauſes madneſs; for thoſe things that paſs through the arteries find an eaſie way of diſpatch through to the brain, through the jugular veins and the carotides, which are admitted into the very ventricle thereof. But when deliration is joyned with madneſs, there is in the mind a diſturbance, and much

variety

variety of imaginations, which causes the patient to move his eyes variously, as it were looking after those things which he hath framed in his fancy.

CHAP. XIII.

Of the signes of approching convulsions.

EFFects. Principal actions. *When causeless fear and sadness ensues after cold, a convulsion is not far off.* Hipp. in Coac.

Fear and sadness are caused by a contraction and retreating of the spirits to their fountain, being oppressed with an abundance of melancholick humor, which makes them to be joyned with cold, and so that humor affecting the brain stirs up convulsions, unless the matter be evacuated by Hemorrhoids, varicles, or flowing of the moneths.

Very fierce ravings end in convulsions. Hipp. in Coac.

Less principal actions. For they are caused by a hot and dry distemper of the brain, which affects the roots of the nerves, bringing a convulsion that proceeds from drineſs along with it.

Sleep and waking. *When upon a coldness a nocturnal fit succeeds, causing want of sleep, joyned with fatuity, if sometimes urine break forth in time of sleeping, a convulsion ensues.* Hipp. in Coac.

All these symptomes signifie a running up of the matter to the brain, which threatens a convulsion.

An extraordinary and lasting pain of the head, the belly being bound, threatens a convulsion.

For it shews that the matter causing the disease is fixed in the head, which being carried to the beginning of the nerves causes a convulsion.

Feeling. *Deep and heavy pains in the arms and neck portend a convulsion.*

For they proceed from an oppression of the hinder parts of the brain, and a diffusion of the humor into the marrow of the back-bone, or the membranes thereof, through the abundance of the matter, or maligne quality thereof, which extends it self to the arms through the back, because that nature cannot dissolve or concoct the morbifick matter.

Excrements. Urine. *A suppression of the urine with coldness is evil; for it brings a convulsion, as well at other times, as also if a heavy sleep do precede.* Hipp. in Coac.

A convulsion easily ensues those symptomatical coldnesses with a suppression of urine, because they shew a running up of the humors to the brain, and original of the nerves; and that so much the more if the patient be at the same time sleepy, which is a most evident signe of an affected brain.

Urine which flows from the patient in sleep not according to custome, threatens a convulsion.

For it shews that the muscle shutting up the neck of the bladder is grown weak, the motion whereof proceeds from the nerve, whose first original is out of order; unless that part be affected with some peculiar disease.

CHAP. XIV.

Of the signes of a future relapse.

A Future relapse in persons recovering is manifested by the following rules.

The essence. *Malignant and evil disposed diseases do not seldome relapse.*

For they do very much weaken nature so that it scarcely can procure it self a perfect freedome from the morbifick cause, but that there must remain some reliques of the disease which will produce a relapse.

Diseases by how much the longer they endure, by so much the more they are lyable to a relapse; and by how much the more acute they are, by so much the less they return.

Continual diseases proceed from a more thick and cold matter, which is the more difficultly concocted and evacuated. But acute diseases proceed from a more thin matter, which is more easily prepared and evacuated.

When the feaver slackens upon a day which is not critical, it will return.

For as the critical dayes have a great influence upon the disease as to the curing thereof, because then nature doth commodiously expel the morbifick humors; so those dissolutions which do happen on a not critical day, are alwaies treacherous, because they agree not with the laws of nature orderly performing her work.

The internal causes. *Diseases that arise from black choler, with various, mixt, slimy, thick and stubborn humors, are wont to relapse.*

For it shews that the humors are rebellious, and cannot be perfectly vanquished by nature, which causes relapses.

Diseases which arise from blood, sweet flegme, or pale choler, or other humors which have no malignant quality, and are simple, and which neither oppress the patient with their quantity, nor are thick or slimy, do not threaten any relapse.

Because that nature easily frees it self from the trouble of these humors, which are not at all stubborn.

External. *Those diseases that happen in the spring, winter, or at the beginning of the summer, seldome relapse; but those diseases which come in Autumn are most lyable to relapse.*

For in the winter and spring the native heat is most potent, and doth most efficaciously dissolve the noxious humors; but in Autumn is more weak and languid, by reason of the faintness induced by the heat of the foregoing summer, and therefore it is the more difficult wholly to expel the morbifick cause.

The subject. *Those persons who have a good constitution of body, and are once recovered of a disease, never suffer relapse; but persons of a bad constitution often fall into it.*

For in those the strength of the parts easily dissolves the morbifick cause; but in these weak nature doth imperfectly expel the humor.

Helpful and hurtful. *Those that cannot regain perfect health, being helped but by few things, and hurt by many, are in danger of a relapse.*

For this signifies that the reliques of the morbifick cause do lurk in the body, whence proceed relapses.

Effects. *If the actions, excrements, and qualities of persons recovering differ much from the natural constitution, and return not to their former condition, a relapse is to be feared; in those whose feavers cease without the signes of concoction, a recidivation is to be feared.* Hipp. 2. prog.

The noxious humors cannot be conveniently expelled unless they be first concocted; and therefore although the feaver cease, if the signes of crudity appear,

they

they shew that the morbifick matter is still retained within, and will cause a relapse.

If after the Crisis is made the patient for a long time voyd thin water, and very little coloured, tis a signe of a relapse.

For it shews a weakness of nature, which doth not perfect its concoction duly and in order, whence arise new and fresh excrements by which we may expect a relapse.

THE FOURTH BOOK OF Physical Institutions, WHICH IS THE HYGIASTICK PART OR *TREATISE OF THE CONSERVATION* OF HEALTH.

The Proem.

THE end of Physick is twofold, viz. the conservation of health which is already enjoyed, and recovery of that which is lost.

In the Hygiastick part is handled the former, the latter in the Therapeutical.

That which contains the conservation of present health consists in the administration of six things not natural.

Those are Aire, meat and drink, motion and rest, sleeping and waking, excretions and retentions, and the passions of the mind.

They are called not natural, as being between natural and preternatural. For

those things are properly and absolutely natural which are ingredients to the constitution of a living body, and are treated of in *Physiology*: but these are said to be not natural, because the right and true use of them preserves the health, and then they are referred to natural causes; but the preposterous and unlawful use of them produces diseases, and then they are preternatural, and the causes of almost all diseases, as is declared in Pathology. But there are some of them that are contained in the rank of things truly natural, as motion of the body, passions of the mind, as the functions do proceed from their faculties; but being considered as the use of them affects the body, they are called not natural.

They are also said to be necessary, because we cannot want nor be without their efficacy, but they do continually and necessarily affect our bodies.

It may be *objected*, that there are many other things that do alter our bodies, which for this cause are to be numbred among those things which are not natural, as the heaven, water, fire, earth, and the countrey, or place of abode; and therefore their number must be multiplied. *I answer*, That the heaven, fire, earth, and countrey, are reduced to aire, because they act not on us but by the mediation of air; water may be referred to drink, if it be assumed, but if it be applied as in a bath, and lotions, we deny it to be a necessary, for that we may easily want it, and therefore it is to be raised out of the catalogue of things not natural.

Therefore all this book shall treat wholly of the explication of the six things not natural, wherein shall be shewn how to make use of them for the conservation of health, and to defend the body as long as may be against the assaults of diseases: we will begin with meat and drink, because they are of most consequence, and therein are most things do offer themselves to consideration.

CHAP. I.

Of meat, drink, or of the matter of our nourishment.

Nourishment is that which being changed by the natural heat, may be converted into the substance of our bodies, and nourish it.

It differs from a medicine, in this, that a medicine is defined by Galen 1. simpl. *to be a thing that cannot alter the substance of our body, nor as such be changed into it.*

Yet there is a certain medium betwen these two, partaking of both natures, which may both nourish and alter, and it is called a medicinal nourishment.

But there are several sorts of nourishments, which are taken out of several things, all which things notwithstanding are contained under the several sorts of plants and animals.

All sublunary things which are used in Physick are comprehended under a threefold head, as plants, animals, and minerals. Now every mixt thing endued with a nourishing faculty, must of necessity have had life; whereby minerals are excluded out of the number of things that nourish.

In the use of them are to be considered the substance, quantity, quality, order, time, and hour of taking them; the preparation, custom delectation, age, and time of the year. Of which we shall treat severally, and as a consequence relate the qualities and faculties of those meats and sawces which are chief and most in use: and at length discourse the use and substance of things potable.

CHAP.

CHAP. II.

Of the substance of aliments.

BY the substance of the nourishments we understand the form and matter whereof they are composed.

Under the word form we comprehend that propriety of the whole substance by which the nourishment is made fit to be converted into the substance of our bodies. Whence it is vulgarly said that the meat doth nourish us by reason of the likeness of substance it hath with our bodies.

Hence meats are said to be of good or evil juyce, much or little nourishing, according to the analogy which they hold with the substance of our bodies, or according to their purity, or mixt composure of the heterogeneous parts.

To the matter hardness softness, thinness, thickness, heavinesss, lightness, crassity, tenuity, clamminess, and friability, are related; which although they be contained in the rank of second qualities, yet because they are inherent to the matter, and are therefore called material qualities (as proceeding from the various mixture of moisture with driness) they are referred to substance, or mood of substance.

Therefore as to the substance, those are said to be good and wholesome nourishments which beget good and wholesome juyce, and few excrements, and which are of a midling substance, as being neither over hard, thick, or close, nor oversoft, thin, or fine. Of which sort is bread made of the purest flour of wheat, new, well baked, and leavened; mutton, kids flesh, veal, capons, hens, pullets, chickens, partridges, and other mountain birds; and other things which shall be more copiously reckoned up hereafter.

Meats of evil juyce, hard to be concocted, of bad nourishment, and begetting many excrements, are those which have a hard, thick, heavy, close substance, as bread of bran, beef, goats, stags flesh, pulse, old cheese, and the like.

But these good or evil nourishments are not to be esteemed generally wholesome or unwholesome to all men, but according to their various nature, way of life, and exercise: those are more convenient for some, these for others: so those who have a stronger heat, such nourishments of hard digestion, as ox-flesh, stags, hares, smoked meats, and the like, are more easily concocted. And on the contrary, meats of an easie digestion, as lamb, veal, soft eggs, fresh fish, and the like, are by them most difficultly concocted, as being rather corrupted and scorched up by the strong heat of their stomachs; for as they are easily altered, so they are easily vitiated and corrupted. But the other which are commonly thought to be hardly concocted, as they are difficultly altered, so they are scarcely reduced to a worse condition.

We have the examples of this in those things which are concocted outwardly, *viz.* hony, which is naturally most sweet, but if it boyle beyond a fit time, it contracts a bitterness. On the contrary, beef and pork being long boyled are more savoury. Hony also is noxious to young men, because it is scorched up by the heat of the stomach, and turned into choler. But it is wholesome for aged men, because it receives a fit concoction by the moderate heat of the stomach. For the same reason countrey-men, labouring-men, porters, mariners, and others exercised at hard labourious trades are not so kindly nourished with kids flesh, veal, pullets, pigeons, and soft eggs; not onely because the stronger heat of their stomachs so soon consumes and dissipates those aliments, but because it doth also over-concoct and corrupt them. On the contrary, they are more conveniently nourished with pulse, coleworts, cheese, beef, and such like.

CHAP. III.

Of the quantity of aliments.

THe quantity of aliments ought to be very moderate, onely as much as may ſuffice for the nouriſhment of the body, and refreſhing the ſtrength thereof. So that if the true limits be far exceeded, it produces various diſeaſes, and ſhortens life.

But as the multitude of meats begets many diſeaſes, ſo a ſparing diet, which is vulgarly called ſoberneſs and frugality, ſerves to prevent and cure many diſeaſes, and makes life long.

The chief order of diet conſiſts in the moderate quantity thereof. For although the aliments ſhould be a little faulty in the ſubſtance, quality, and other conditions thereof, yet if they be taken in a ſmall quantity and well concocted, they nouriſh well. And therefore in the firſt place, we muſt take notice of the quantity, which moſt commonly is received in the exceſs. This is hence apparent that moſt diſeaſes are cured by bloud letting, purging, and other evacuations, by which the ſuperfluous multitude of humors is to be taken away, which proceeds from an abundance of meat aſſumed. Hence ſoberneſs and ſparing diet is called the parent of health and long life. Whence *Hipp.* 1. *Epid. Sect.* 4. *Aph.* 10. *He that ſtudies his health muſt not over fil himſelf with meat, nor be idle and lazy*: and again, *Aph.* 17. *Sect.* 1. *where a man eats more meat then is ſufficient for nature, he brings himſelf to diſeaſes. Plato* diſcovers an intemperate City by this ſign that it maintains many Phyſicians. Hence proceeds the Proverb, *Intemperance is the nurſe of Phyſicians*: As alſo that other, *gluttony kills more then the ſword.* But *Galen* ſaith thus, *Our anceſtours were leſs troubled with diſeaſes becauſe they lived more frugally.* And *Seneca* ſaith, that the luxury and gluttony of his age called *Hippocrates* lyar, who affirmed that eunuchs and women were not troubled with pains of the gout. *Ariſtotle in his Problems* ſaith that it is moſt wholſome to diminiſh the quantity of meat, and to increaſe labour. *Diogenes* the Cynick was wont to ſay, that it was a fooliſh thing to begge that from the Gods which is in our power; while we pray to God for health, and preſently fall to glutting our ſelves with meat and drink. To all theſe we may adde the authority of holy Scripture, in *Eccleſiaſtes*, *Be not greedy in thy banquets, and give not thy ſelf over to meat; for in much meat there is ſickneſs, and greedineſs will turn to choler. Many have died through fulneſs, but he that is temperate lengthens his life.*

This alſo may be made evident by clear examples. S. *Paul* the firſt hermite, as S. *Ierom* records in his life, lived to a hundred and fifteen years, of which he lived one hundred in the wilderneſs, for the firſt forty years eating nothing but dates, and drinking water; for the reſt of his time, after the dates failed him, upon half a loaf which a crow brought him every day.

S. *Anthony*, as *Athanaſius* teſtifies, lived a hundred and five years, of which ninety he ſpent in the deſert, receiving no other ſuſtenance but onely bread and water, with which in his old age he now and then eat ſome herbs. *Arſenius* the tutor to *Arcadius* the Emperour, lived a hundred and twenty years, fifty five of which he ſpent in the deſert, with a wonderful temperance and abſtinency. In our age *Ludovicus Carnarus*, a noble Venetian, having been very unhealthy to the thirty fifth year of his age, though he uſed many medicines, in vain ſtriving with many diſeaſes at length by the advice of a certain Phyſician he began to oppoſe his diſeaſes by diet, diminiſhing by little and little the quantity of his meat and drink till he came

came to fourteen ounces of meat, and bread, or the like, and sixteen ounces of drink in a day; to which order of diet accustoming himself, he by this temperance prolonged his life, being free from diseases, and vigorous to above one hundred years. As himself testifies in *a book of the profit of a sober life*, written by him in the Italian tongue, and translated after both into Latin and French. From which we gather, that sparing diet doth not onely extraordinarily avail to keep and preserve health in a good condition, but also to expel durable and pertinacious humors. For after the natural heat hath concocted that small quantity of nourishment, then it works upon the superfluous humors, digesting and dissipating them, causing them insensibly to exhale through the passages of the body, which renders the body pure and free from morbifical causes. Now while a man persists in this course of diet, the body is made free from diseases, at least in respect of internal causes. Which if it be endangered by external causes, the harme is less considerable, because the body being free from superfluities is better able to make resistance. And therefore we see in great alterations of seasons, *viz.* when from a southern, hot and moist constitution of the aire, a swift and sudden alteration is made into the north, being cold and dry, that many are troubled with Catarrhs, Pleurisies, or peripneumonies, in whose bodies was hoorded up much matter for diseases; but others are not troubled whose bodies are void of superfluous humors. And if sometimes such persons through the vehemency of external causes be hurried to any disease, they recover so much the sooner, by reason that the internal cause moved by the external is of no great force, which is therefore the more easily vanquished and resolved.

Furthermore, if this exact diet do not altogether take away the disease, yet very much impairs the vehemency thereof and makes it more tolerable, so that the patient may live long enough to struggle with the disease. And thus daily experience informs us many live long with an ulcer in their lungs, with a scirrhus in their liver or spleen, with the stone in their reines or bladder; which *Aristotle* testifies *in his Problems*, saying, that there was a certain Philosopher in his time, by name *Herodicus*, who was in a consumption, yet by well dieting himself lived to a hundred years.

It is commonly *objected*, that many live to a very great age that are very liberal in their diet. To this we *answer*, that those are very few, and endued with an extraordinary strength and good temper of body, who if they should live soberly would produce their lives to a much longer age, and be better disposed to the actions of the mind. For of necessity those that live intemperately must abound with ill humors, and be often assailed with diseases, nor can long intend the high and difficult functions of the mind without manifest impairing of their health. For in those persons the strength of nature and the spirits is wholly enslaved to the concoction of the nourishment, from which if it be violently drawn by the studious labours of the mind, the concoction cannot be good; whence follow many diseases and crudities, because they require much exercise, or physick to purge the body; and so though they seem to live long in their body, yet their mindes and ingenuities seem already interr'd, being unable to hold out long in the performance of those noble functions, the greatest part of their time being to be spent in drudging for the body. Add to this, that though it may happen that such as are endued with a strong nature may live long with such profuse diet, yet we find no examples that weaker constitutions using the same diet, would ever live to old age. But on the contrary, if they live temperately they may live longer then such as indulge themselves to intemperancy, though of stronger nature.

But this moderate and necessary quantity of meat cannot be prescribed by any general rule,

rule, the diversity of times, ages, and tempers, causing much alteration in that particular.

In this theorem is shewn that the example of *Ludovicus Cornarus* above mentioned is not to be followed by all men, for there are many men whose natural heat is strong and vigorous, which would be much damnified by such a sparing diet. For *Hipp.* writes *in* 1. *book Aph.* 5. that a diet too strict and sparing is more dangerous then that which exceeds a little; for it is an easier thing to have remedies against the plenty of humors, then to repair the natural moisture, and the wasting of the solid parts by aliments. A threefold order of diet is instituted by *Hipp. and Galen*; *sparing*, which diminisheth the strength; *moderate*, which preserves it; *and full*, which increases it. Sparing diet is not convenient for healthful people, but onely for the sick. *For as meat is health to the healthy; so it is a disease to diseased persons: and by how much the more you nourish unsound bodies, by so much the more you hurt them.* In healthy people the strength of nature is to be preserved or increased with nourishment, not to be broken; which cannot be in sick persons, because a moderate diet preserving the health in healthy people, diminisheth it in those that are sick, by increasing the disease; because by how much the more you feed it, by so much the more you hurt the body of the patient. And therefore so exact a diet as was observed by *Cornarus* is not convenient for all men, but onely to such as are sickly, and whose natural heat is weak, and not able to concoct much meat, and also to such whose bodies are full of humors, for hunger dries up the body; as also lastly to those that use little exercise, leading a sedentary life, being addicted to contemplation, and the tough labours of the mind. Yet there are certain rules which may be set down, by which every man may prescribe to himself a certain and convenient diet at all times.

The first theorem is, *That a man in health must never eat to satisfie, but rise from the table while his appetite is still quick.*

This rule answers to the *afore cited Aph.* of *Hipp. do not clog your self with meat.* For in healthy persons the appetite will be lively till the stomach be very much filled; which repletion is very hurtful, as we have said before.

The second Theorem is, *If you ordinarily take so much meat, til you find a kind of drowsiness, heaviness, and weariness, when as you were before nimble and cheerful, it is a signe you have exceeded your accustomed measure, and that you must diminish the quantity of your meat till you find no more of those inconveniencies.*

The third Theorem is, *If after meals you be unfit for the actions of the mind, as study, meditation or contemplation, and other functions of the mind and body, then it is apparent you have exceeded your due proportion.*

The fourth theorem *is taken from* Hipp. 3. *Of diet, where he proposeth the signes of repletion, which proceeds from too great a quantity of meat eaten, and is therefore to be diminished; nay if it do so much exceed, that it threaten a disease, seeing that sparing diet doth consume the superfluous humors but very gently, the fulness must be taken away by evacuations.*

The signes of repletion propounded by Hipp. *are here to be briefly set down, being reduced into order according to the method of our semeiotical discourse, that they may be the better understood. They are these; pain and heaviness in the head, long and troubled sleeps, troublesome dreams, when a man imagins himself to be fighting, sleep in the daytime, chiefly after meals, laziness of the whole body, weariness, and pain either in the whole, or in any part thereof, want or decrease of appetite, crudities in the stomach, sowre or inodorous belches, and hard binding of the belly, or more then was wont to be, frequent distillations, the nose stopt after supper, yet with little or no excrement proceeding thence, in the morning much excrement at the nose, and much spitting, uncustomary abundance of wind,*

lossness

looſneſs of the body proceeding ſometimes from the meat corrupted, ſometimes from a dyſentery.

The fifth theorem is, *That you muſt not immediately change from a full courſe of diet to an exact and ſparing one, but you muſt do it by degrees, phyſically diminiſhing it by moderate with drawing from the wonted quantity, until you come to ſuch a proportion, as doth no more offend, neither the body, nor the functions of the mind.*

This theorem is confirmed by *Hipp. in the* 51. *Aph.* 2. *To evacuate or fill much and ſuddenly, to cool, heat, or any other way to move the body is dangerous. For every exceſs is an enemy to nature, but that which is done by degrees is ſafe, as at other times, ſo when you paſs from one thing to another.*

To the diſcrete quantity belongs the variety of meats, which is very prejudical to health. For the nature of ſeveral meats being various, it follows that ſome are ſooner ſome more ſlowly digeſted, which cauſes an evil concoction; For if the meats more eaſily concocted are after perfect concoction detained in the ſtomach, they preſently corrupt; but if as ſoon as they are concocted, they are thruſt down to the inteſtines, they carry along with them the other meats not fully concocted, which is the cauſe of many crudities.

This theorem is to be underſtood of ſeveral ſorts of meat much differing in their nature and temper. For it is no inconvenience to eat at the ſame meal chickens, partridge, pullets, and other ſuch kind of delicates; but if you preſent to the ſtomach an olio of fleſh, fiſh, herbs, fruit, and ſuch kind of heterogeneous diet, there follows thence an evil concoction. *Hipp. lib. de flat. Things unlike move diſturbance,* for ſome are ſooner, others ſlower, others hard to be concocted. *Seneca* ſaith elegantly, *ſeveral ſorts of meat defile, but nouriſh not.*

CHAP. IV.

Of the quality of meats.

MEats in relation to their quality are either temperate or intemperate.

Thoſe are ſaid to be temperate where no manifeſt quality is predominant, and they are convenient for all ſorts of perſons, eſpecially for men well tempered. Of this kind are bread and fleſh, which are euchymous or of good juyce. And theſe are ſimply called aliments.

Intemperate are thoſe which alter the body by ſome manifeſt quality, and are called Phyſical aliments.

But thoſe Phyſical aliments alter our bodies by heating, looſing, moiſtening, drying, obſtructing, opening, looſing or binding the belly, increaſing milk or ſeed.

Thoſe which manifeſtly heat are wine, pepper, and other ſpices, onions, garlick, leeks, water-creſſes, hyſſop, mint, parſley, and all ſalt things, the ſame alſo dry. Thoſe things which cool are barly or rye bread, vinegar, lettice, purſland, ſorrel, gourds, cucumers, melons, and ſummer-fruits, all which do of themſelves, moiſten, except vinegar. The thick nouriſhments above rehearſed do obſtruct, and thereſt of the ſame nature; which are therefore to be avoided by all men, becauſe moſt diſeaſes proceed from obſtruction. Thoſe things which open obſtructions are the aforeſaid ſpices, ſmallage, parſley, capers, aſparagus, the wilde parſnip, ſea-fennel, red vetches, and many other things; thoſe things which increaſe ſeed and

milk are to be taken out of the Physical compositions and simples; for there will be found among them many more things endued with the same faculties besides those already related onely for example sake.

CHAP. V.

Of the order of Aliments.

IF you rightly observe the last Theorem propounded in the second chapter, that is, to shun variety of differing meats at the same meat as hurtful; there will be no need of this chapter: but because the intemperance of men will not submit to such strict laws of diet, we are forced to set down precepts how to diminish the harm that comes thereby.

Therefore the common and general rule concerning the order of diet is, that thin, liquid, easily to be concocted, loosening meats, and which easily descend, should be first taken; and those which are more thick and solid, of difficult concoction and binding, last.

This rule is taken from *Galen in l. 2. de Alim. facult. c. 2. and 3. of the manner of diet in acute diseases.* And it is also much confirmed by reason. For those which are quickly concocted, as moist and liquid things, more easily pass from the stomach, and if they be retained after concoction they putrifie. Also after they are concocted, and thrust down to the gut called Duodenum, they give place to those things which are not yet concocted, to fall down to the bottom of the stomach, where they may be better concocted. But although this doctrine be very much received, yet some have endeavoured to prove the contrary, because that the meats solid and of hard digestion want a greater heat which is at the bottom of the stomach, being more fleshy, and therefore being put first in they will be concocted in the same space of time as those which are of more easie concoction, lying at the top of the stomach where there is less heat. But there is not so much difference in the heat of the lower and upper part of the stomach, that in one meats of easie, in the other meats of hard digestion should be in the same time concocted. It is rather to be affirmed, that the nourishment does not keep the same seat in the stomach all the time of the concoction as it had when it descended, but by concoction it is mixed together, it being the property of heat to congegate things of like nature. And experience tels us, that an uniform chyle in all parts alike is begot out of the whole nourishment. Add also to this, that the drink which is powred down at several times at dinner and supper, is exactly mixed with the meat, and the like is also to be said of broths and other such like liquid meats. Therefore this rule as to the ordering of diet is of no great value. But it is much better not to indulge to this variety of meat, when one sort of meat, or several of the same nature, are orderly concocted together; there being no danger of crudities, if they be used and eaten moderately. But this is to be affirmed, that moist and loosening meats being first taken, do loosen the tunicles of the stomach, and soften the belly, but things that are astringent do streighten them, if they be taken in the first place.

At the beginning of the meal, some broth, or morsel of flesh, or some other nourishment actually hot is to be taken; but let a man never drink first.

To this rule is repugnant the common verse of the *Salern* school.

If danger thou'lt avoid, and no pain feel,
Be sure to take a cup before thy meal.

But

But this is not to be understood of water and wine, for otherwise it were wholly to be rejected; but of liquid nourishment: in which sense also *Hipp.* uses the word *drink*. *Aph.* 11. 2. *Sect.* where he saith, *it is easier to be filled with drink then meat*. By drink he there means liquid nourishment which is to be dranke, such as is given to people in feavers, which in another place he calls moist diet; for they are more easily concocted, and dissipated, and consequently fill the body sooner. But the ordinary drink composed of water and wine being dranke first, is carried raw to the veins, especially being fasting, and strikes the nerves; and most of all if you drink wine. For to drink water before meals, especially where people have hot stomachs, and in the summer time, is not inconvenient, for that water is quickly drank up by the dry liver, whence it receives a cool refreshing.

Neither doth the custome of the ancients alledged by some impugne this rule at all, which is reported by *Atheneus book* 4 *Deipnosoph.* that formerly there were set before the guests twenty silver cups, which being emptied, the bread and meat was presently brought in. He in the quoted place, describing the frugality of *Cleomenes* King of the *Lacedemonians*, saith, that there was given but one cup to the guests before supper. With the Latines also this custome was observed, as *Pliny* saith *l.* 12. *c.* 22. that in *Tiberius Claudius* his reign, above forty years before, it was an institution to drink fasting; and that the wine was usually brought in before the meat: but it was a pernicious custome, and to be condemned, as being used no where but in profuse and intemperate banquetings, nor admitted into the company of sober men; which *Pliny* intimates, saying, that this custome was introduced by external and forregin arts, and prescriptions of Physicians that would commend themselves by bringing in novelties. It is disapproved by *Plutarch l.* 8. *Sympos. quest.* 9. where he reckons these carowsings before meat among the causes of diseases. *The ancients, saith he, drank not so much as water before meat; now before they eat, full of wine, with a moistened and hot stomach they fall to their meat*. It is most wholesome to take solid meats before drink, till thirst be stirred up, and those actually hot, lest they offend the heat of the stomach; and that they may be as it were a firme foundation for the rest of the meat.

But to conclude, the meat with drink is not inconvenient.

It is a thing of no great moment whether you eat or drink last; but this is to be noted, that you must not drink too great a quantity, for it makes a fluctuation in the stomach; but if after the conclusion of the meal, you find any kind of thirst, it will not be a miss to drink. *Celsus* is of opinion, that it is good to drink a draught of cold water after meals; which is not contrary to reason, seeing that it lightly binds up the orifice of the stomach by its coldness, and gathers the heat close together by antiperistasis, binding the ascent of vapours; for experience teaches that the rank steam of some meats, as of onions, garlike, old cheese, and the like, is kept from the head by a draught of cold water after meals.

CHAP. VI.

Of the time and hour of eating.

THE time and hour of eating depends altogether upon custome; for if one have accustomed himself to eat twice or thrice in a day, and at certain houres, and finds himself well with it, he may continue so doing till he find any occasion to alter his mind.

There can be no certain rule set down concerning the hour and time of eating, but first you must take it from custome, which hath such an influence upon nature, that at the hour of eating the hungry stomach will be an exact remembrancer to healthy persons. But after that hour their appetite will grow faint, and their hunger leave them.

But the hour of dinner and supper coming, it is necessary that the appetite should be very quick, to shew that the meat last eaten be throughly concocted. For otherwise it will be necessary to omit that hour, and to eat nothing or very little.

The intent of this rule, that you do not eat again until the meat already in the stomach be very well concocted, and fallen down to the guts; for then the appetite is reinforced, and concoction is afterwards very well made. But if you eat again before the former meat be throughly concocted, the concoction is spoiled, and it is the cause of many crudities. But this onely concerns those who on some extraordinary occasion, as at some banquet, have eaten too largely; but then it would be very necessary to abstain from the next meal, or to be content with one draught of drink, and a very small portion of meat. For if it should happen that in the ordinary custome of eating, the appetite should be lively at the accustomed hour, and that there were other signes of inconcoction of the former meal, tis to be suspected that too great a quantity of meat was taken, which ought to be diminished.

But there being a certain time of eating to be fixed to the greater number of men, we judge that it is most convenient to eat twice a day. For more frequent eating begets crudity. And a longer abstinence weakens the body, and draws down humors to the stomach, which may cause many bad affections.

The greatest part of men are contented with a dinner and a supper, many notwithstanding add a breakfast, and others a bever also; which is most used by children and old men; by children, because as *Hipp.* teaches, *they have much natural heat, and consequently have need of much nourishment*: by aged men, because having but a weak heat, they ought to eat but little at a time for the easier concoction, that the body may be sufficiently nourished. But long fasting is naught, especially for such as are troubled with bitter choler, because the stomach being empty is filled with cholerick humors, which cause pains of the heart, bilious colicks, and other diseases. But in other men, an empty stomach, not having matter to concoct, draws what it finds from the adjoyning places, and so fills it self with ill humors, whence proceed many diseases: and therefore after much fasting it is better to take away somewhat every meal from the quantity of meat, then to use long fasting.

A supper in some persons that are healthy, and in the flower of their youth, ought either to be equal, or larger then the dinner; but in all others more sparing.

There is no question in the whole art of physick more controverted, then whether supper ought to be larger then dinner, or the contrary; which ushers in another difficult

difficult queſtion, whether concoction be ſooneſt perfected in the day or the night, aſleep, or waking: for they do both muſter up their arguments with equal force.

And that the ſupper ought to be the larger is proved out of *Hipp.* 3. *of diet*, where he teaches to eat but once a day in the winter, unleſs you have a very dry belly. If that cannot be done, he bids us eat but a ſmal dinner, whence tis eaſily gathered, by that one meal which *Hipp.* preſcribes in the winter, he means a ſupper.

Celſus following *Hipp.* *In the winter, ſaith he, men ought to eat but once in a day, unleſs the belly be very much bound.* And after that he addes; *If a man dine, ſome ſmall matter were moſt convenient, and that dry, without fleſh or drink.*

Galen 7. *Meth.* c. 6. expreſly ſaith, that ſupper ought to be greater then the dinner, and gives this reaſon, that after ſupper comes reſt and ſleep, and longer time, double to that which is between dinner and ſupper. From theſe words of *Galen* a threefold reaſon may be gathered.

Firſt, in reſt the body is not moved, nor toſſed up and down, ſo that the meat may lye aptly in the ſtomach, not fluctuating nor ſtirred from place to place; which helps concoction, becauſe concoction requires reſt.

Secondly, in ſleep, the animal ſpirits keeping holiday, the vital and natural become more ſtrong and lively, which much helps forward the concoction.

Thirdly, the time being double between dinner and ſupper, the nouriſhment alſo ought to be double.

Fourthly, to theſe reaſons *Galen* adds the example of the wreſtlers, who eat much fleſh at ſupper, but at dinner onely bread. To *Galens* the following reaſons may be added.

Fifthly, the coldneſs of the night promotes concoction. For this like the winter renders the ſtomach and belly more ſtrong, driving the heat inward, whereby to perfect the concoction.

Sixthly, it is proved that in ſleep the heat runs to the center, by the authority of *Hipp.* 1. *Epid. Sect.* 4. who ſaith, that a man waking is hotter about the exteriour parts, and colder about the inner parts: but in thoſe that ſleep it is quite contrary; which appears alſo by the pulſe, and breath, which are ſtronger ſleeping then waking.

On the contrary, that dinner ought to be larger is proved by the following reaſons and authorities. The authorities are taken from *Actuarius* and *Avicen*, who adviſe to divide our meat into three parts, two whereof muſt be eaten at dinner, and the third at ſupper. To which may be added the verſes of the *Salern* ſchoole, which are in Engliſh thus;

At ſupper if you fill with meat,
Your ſtomach, your pain will be great;
If you deſire a quiet night,
Make a ſupper ſhort and light.

Their authorities are ſettled upon ſtrong reaſons.

Firſt, between dinner and ſupper there are but ſeven or eight hours at moſt, between ſupper and dinner about ſixteen. But if ſleep were advantageous for concoction, it would be perfected about the middle of the night, and hunger would immediately ſucceed. But on the contrary, when a man riſes out of his bed in the morning he is leſs hungry then before ſupper; which makes it clear, that concoction is more ſlowly performed in ſleep then in waking.

Secondly, ſleep after dinner, in thoſe that are not accuſtomed to it, cauſes the appetite not to be ſo quick at the hour of ſupper, and a ſenſible oppreſſion of the

the stomach by meat, which shews that concoction is most imperfect in sleep. For if sleep helped concoction, it would be alike profitable to all.

Thirdly, those that wake are most hungry; whence *Hipp. 6. Epid. Sect. 4. Aph. 20.* calls it *greedy watchfulness*. So those that watch beyond their custome till late at night, sooner perceive hunger: so those that press out wine and oyle, because they are perpetually awake, they eat much and often.

Fourthly, if sleep did promote concoction, a man ought then to sleep presently after meals, because the meat being then more solid requires the greatest heat of the stomach, and because the first hours work is hardest; but this is all performed waking, otherwise the stomach would be much oppress.

Fifthly, those who have a weak stomach, and a bad digesttion are more disturbed by night after the first sleep, then by day in the afternoon; which argues that in sleep concoction is difficult.

Sixthly, *Celsus* adviseth that in the long dayes it is better to sleep at noon before meat, for no other reason doubtless, but because sleep retards concoction.

Seventhly, in sleep the heat runs to its fountains, but the other parts are left destitute, more then in waking; and when a man is awake the heat is more equally diffused through the whole body, and therefore there is less heat in the stomach when a man sleeps then when he wakes.

Eightly, in the daytime the heat of the sun advantageth concoction. For the sun, as *Arist.* affirmes 2. *Phys.* 2. is the fountain of life. And therefore concoction in the day hath a double heat, which that which is done by night wants.

Ninthly, the situation of the stomach in those that are awake makes more to the furtherance of concoction, because an upright posture causes the meat to descend more easily to the bottom of the stomach, which is more fleshy; but in those that ly, it onely touches the sides thereof, so that the mouth of the stomach cannot shut as it should do. And therefore sleeping at noon hurts less in a posture of sitting then lying.

Tenthly, the flegme which in the day-time is expelled at the nostrilles and throat, in the night flows down into the stomach, and retards the concoction, which inconvenience molests not those that wake.

Lastly, experience confirmes this for a truth; for there are very few men who will not ingenuously confess that they find themselves better after a light then great supper. And *Cardan* testifies, that he did aske many men that lived to a hundred years, who told him that they used very slender suppers. To these we may adde the example of *Telephus* the Grammarian, related by *Galen*, 5. *of preserving health*, who lived almost to a hundred years. His words are these; *He eat raw hony mixed with rice pottage about the third hour of the day, about the seventeenth he dined, using salads first, then river fish, or birds. In the evening he contented himself onely with bread sopped in wine.*

We therefore convicted by the force of these latter reasons, and much more by daily experience, do believe that suppers ought to be more sparing then dinners; yet we grant, as in the *theorems* is mentioned, that those who are in perfect health, and have a strong stomach, may either eat as much or more at supper then at dinner, so that the whole quantity of both meals do not exceed moderation; for they have a good concoction both night and day. And here may be repeated the sentence of *Celsus*, *that a man in perfect health need not ty himself to any laws*: Nay if a man of a weaker constitution useth but little aliment, and take a less quantity at dinner, he may doubtless make a better meal at supper. Whereby the whole quantity of meat which is taken in one day may suffice for the

the nourishment of the whole body. But if we consider the custome of men now a dayes, who eat their fill at dinner, certainly they would be very much oppressed should they eat largly at supper. And then the mentioned verses of the *Salern* school are verified.

But this rule is chiefly to be understood of those who are subject to fluxes and catarrhs; for by night the flegmy humor flows from the brain into the stomach, and disturbs the concoction. On the contrary, if you eat but little meat at supper, the pituitous humor is consumed by the natural heat, and is not so easily increased again, as in those that sup largly, because from the abundance of meat many vapours do arise from the stomach to the head. And those that are so affected after a light supper sleep quietly: but if they eat large suppers, their sleep is unquietly and interrupted, so that the greatest part of them are forced to eat but moderately, and some to abstain altogether from eating at night. Hence it was wisely said by *Manardus*, *Epist.* 4. *l.* 6. a light supper is profitable for the eyes and head.

But that this truth may be more clear, we must give some satisfaction as to the authorities and reasons brought to the contrary.

And *first* to the authorities of *Hipp.* *Celsus*, and *Galen*, we oppose, that tis true, we are by them satisfied, that it was the custome of the ancients to eat little at dinner, much at supper: nevertheless because they eat very little at dinner, they had more reason to eat largly at supper. And indeed that meal taken at supper had need of more time for concoction then if taken at dinner. But in our times when dinners are so large, we cannot imitate the ancients at supper. And without doubt the ancients had done better if what they did eat at supper they had eaten at dinner, and if that which they took at dinner they had taken at supper. To this may be added that their hour of supper was not the same with ours; for the Romans using to dine but sparingly, and eating a little in the morning, did sup three hours before sun-set, so that they had almost digested their meat before they went to sleep.

But to the *first reason* alledged in opposition to this opinion we *answer*, that all sort of rest is not so convenient to help forward concoction, when as a soft and gentle motion after meals causeth the meat to descend to the bottom of the stomach, and stirs up the natural heat, that it may the better intend its work. Hence the vulgar verse,

After supper stand a while.

Or else walk a mile.

To the *second we say*, that the vital spirits indeed are more strong in sleep, but that they do not flow into the stomach and other parts in that abundance, as when a man wakes; for in sleep they retire to their fountains, but when a man wakes they are diffused abroad.

To *the third we answer*, that the double space of time coming betwen dinner and supper, would require a double proportion of nourishment if the digestion were equally made in both meals. But because the digestion is not so soon dispatched after supper, as we have shewn, that longer time was necessary.

To the fourth we say, that the constitution of wrestlers is not commended by *Galen*, 1. *Aph.* 3. and *in lib. of good habit of body in suas. to arts*, nay he saith that they are short lived, and full of diseases. To restore and fatten the body, meat

even

eaten at supper doth more avail, but it produces diseases from the plenty of humors that proceed from that course of diet. And therefore persons recovering from a disease are more refreshed by a larger supper, but they are in greater danger of a relapse.

To *the fifth and sixth we say*, that in sleep the heat draws to the center, and retires to its fountains, *viz.* the heart and liver. Hence better concoctions are made in the veines and arteries; whence, there is nothing more profitable then sleep to concoct evil humors in continual feavers, and there is nothing which more hinders the concoction of them then waking continually. Hence drunkards are said to sleep away their surfits fulness of crudity which are caused in the veins by an over-repletion of drink. But there is a far different reason for the concoction in the stomach, which proceeds more imperfectly when nature is intent upon the distribution of meats already concocted, as also on the digestion of the evil humors; from which work it is not a little distracted by the concoction of the meats in the stomach, especially if there be any quantity.

The most seasonable hour of dining is about two or three hours before noon, which is much wholesomer then either at noon, or after.

By dining at a seasonable hour we gain two things. *First*, a longer time till supper, that the first concoction may be perfected. *Secondly*, because it is then colder which is most to be aimed at in summer) which coldness helps concoction. *Thirdly*, for that a man is stronger, because nearer the hour of his last preceding, sleep, which produced many new spirits, which render the whole body more strong, and cheerful; and we see every where that those who take their meat in best season live longest, and that those who dine later, are more diseased, and of a shorter life.

CHAP. VII.

Of the preparation of the nourishment.

Some meats require an artificial preparation to fit them for the nourishment of the body; and others are sufficiently prepared by nature, that we may take them just as nature presents them to us: of the first sort are flesh, and fish, and the like; of the latter, all ripe fruits.

The preparation of meats is performed by coction, which is threefold, boyling, rosting, frying, or broyling,

Boyling is twofold, either when things are boyled in water, and then they retain the name of boyling, so that flesh in this manner prepared is called boyled; or else when they seeth them in their own liquor over a gentle fire, and then they are called pottage-meats.

Celsus writes, that pottage-meats do nourish more then rosted, and those more then fryed. But we adde, that boyled meats nourish least of all, because they lose much of their nourishing juyce in the pottage.

Yet boyling is more praised as to the common use, because that which is lost in the flesh is found in the broth. Then also flesh grows softer by boyling, so that it is more easily dissolved and concocted in the stomach.

Roasting of mutton is the better, if first the flesh be beaten with a wooden pestle, as is customary with cookes; for so it becomes more tender, and loose, and more easie to be penetrated

netrated by the heat of the fire.

The other preparations of meat serving to the preservation of health, shall be proposed in their particular descriptions. But those which are for delight and luxury must be referred to the art of cookery.

CHAP. VIII.

Of custome, and delight in the use of meats.

MEats to which a man accustomes himself, though they are not so good, yet are more profitable then unwonted diet.

This theorem is confirmed by *Hipp.* 50. *Sect.* 2. where he saith, *that those things to which a man is accustomed by long time, though worse, yet are less troublesome then things to which a man is unaccustomed.*

For custome is a second nature, seeing that meats used a long time do alter nature, and render it of the same likeness. By *nature* we understand the temper of the body, which becomes like the nourishment to which it is long accustomed. Now the force of this custome is proved by many examples in many authors. One onely shall suffice us; related by *Solenander. Phys. Couns. Sect.* 5. *Coun.* 15. of a certain countryman, who being brought to the hospital could be cured by no remedies: at length as he was about to dye the Physician asked him what kind of diet he had formerly used; He made answer, that he was very much averse to that meat and drink, and syrups, and soft bed which they then used him to, whereas before he had not slept for nineteen years in a bed; and for his diet had used altogether onions, and cheese, and such like, and had slept in the open aire onely upon straw. The Physician permitted him one night to sleep in straw, and to eat onions and salt, and to drink cold water; and although he thought this would the sooner kill him, yet contrary to the opinion of all men, the next day he found him sitting at the fire.

Use and custome is to be observed not onely in the substance, bt also in the quality and quantity of meat, and time of eating.

This rule also is borrowed from *Hipp. Aph.* 17. *Sect.* 1. *It is to be considered,* saith he, *who ought to eat twice or once a day, and where to give more or less; for much way is to be giving to the time, country, custome, and age.*

when meats to which the body is accustomed, being bad, do upon any occasion hurt the body, they are to be changed; and others which are better must be used, so it be done by degrees; for every sudden alteration is dangerous.

For many causes do manifest that the change of diet is sometimes necessary, as when by such or such diet it appears that the diseases are cherished and increased: sometimes age coming on is not able to concoct such meats as were easily digested in youth; therefore if it seem necessary for any cause to change the course of diet, it must be done by a little and a little; which *Hipp.* teaches *Aph.* 51. *Sect.* 1. *to empty or fill much and suddenly, to heat, or cool, or to make any other kind of subitaneous alteration in the body is dangerous, for every excess is hurtful to nature; but that which is done by degrees is safe, as at other times, so when we proceed from one thing to another.* This may be confirmed by many examples, but especially by

the example of *Dionysius* Tyrant of *Sicily*, who was much given to luxury and drunkenness. Who being besieged, and compelled by necessity, finding that he must leave his wonted custome of drinking, suddenly left it off; which when he had done a little while, he fell into a consumption, neither could he recover till he fell to his accustomed manner of drinking again. Though had he left that custome by degrees, he could have received no dammage at all.

Those meats are first to be preferred which are most pleasing to a man, though they be not altogether so good as those which he doth any way loath. This *Hipp.* expressly teaches *Aph.* 38. *Sect.* 2. *Meat and drink, though it be not so good, yet if it be more pleasing, is to be preferred before that which is not so, though it be better in quality.* For when the meat is acceptable to the palate, it is more welcome to the stomach, and the stomach more quickly and readily concocts it. On the contrary, it rejects that which is not so acceptable, so that it neither receives it with greedinesse, nor concocts it with expedition. Under the protection of this Aphorisme many flattering Physicians do shelter themselves, who to gratifie their patients deny them nothing that they covet. But they erre shamefully, and are condemned by *Galen l.* 12. *method. c.* 1. *As*, saith he, *he shews himself to be cruel, that takes away the life of the patient with the disease, so he that perpetually indulges to the palate of the patient, regarding his pleasure, not his health, is a flatterer. And* 1. *meth. c.* 1. he inveighs much against those flatterers. *Those that give cold water if the patient require it, who wash when they bid, who give wine and snow when they demand it, like obedient slaves, contrary to those ancient Physicians who were the true sons of Æsculapius, who governed their patients as captains do their souldiers, or Kings their subjects; and would not obey like* Getes, *Phrygian and Thracian slaves.* Therefore that there may be a certain proportion set down for these things which may be given to sick people, *Hipp.* is to be consulted, who thus speaks 6. *Epid. Sect.* 4.

These are the things wherein the patient may be gratified, and that the meat and drink may be purely tempered, that what they see may be acceptable, and what they feel soft, but that they may do no harme, or such as may be easily repaired; as the giving them cold water where need requires, and the like: where these words are particularly to be noted, *which may not do any harme, or such as may be easily repaired*; for if those things which the patient requires will do any considerable mischief, they are utterly to be rejected.

CHAP. IX.

Of meat convenient for every age.

THe diet for children ought to incline to cold and moist, and therefore wine is hurtful.

The bodies of children being endued with much heat, have need of cooling diet; Hence wine is dangerous for them, because it increases heat, and fills the head full of vapours, for which reason *Galen* forbids it them in his 1. *lib. of preserving health c.* 9. and *Plato* 2. *of laws* teaches, that children ought not to drink wine till they come to be twelve years of age. That moist meat is most convenient for them *Hipp.* teaches *Aph.* 16. *Sect.* 1. *moist diet is convenient for feaverish*

verish persons, but most convenient for children. And reason perswades the same; for the body all this age being in its prime of growing, the increase thereof is not to be hindered by drying meats; besides that the substance of children easily dissolves, and therefore is to be repaired with moist nourishment, which is easily concocted and distributed.

A greater quantity of meat is to be given to them then to others, by reason of the plenty of their heat, and the growth of their bodies.

This *Hipp.* confirmes *Aph.* 14. *Sect.* 1. *Those that are growing are full of natural heat, and therefore want much nourishment, otherwise their bodies would be consumed.*

The reason of this Aphorisme is, because the body being soft and tender, the substance thereof is consumed by the great heat, which must be repaired by store of nourishment.

By youths and young men a midling diet both as to the quantity and the quality is to be used.

Youths and young men have a more moderate temper, and therefore to be nourished with temperate diet, *viz.* such as hath a moderate proportion of the first qualities. The quantity of them also ought to be moderate, that is, less then in children, and more then is used in other ages.

Young men, because they are extremely hot and dry, are to use contrary diet, that is, cold and moist.

Although the diet prescribed to young men ought to be like the diet of children in relation to the qualities, yet as to the substance it must be different; whereas the moist nourishment prescribed to children ought actually and potentially to be that is liquid for the most part, or such as may be supped, or at least to be soft and of easie digestion. But young men require meats more solid, and hard to be concocted, as salads, fruits, and the like, which may be digested by their stronger stomachs. Wine is very hurtful for them, especially if it be pure; for as *Plato* saith, it renders them furious; and it precipitates them to wrath and lust, according to the opinion of *Galen. Old men require a hot and moist diet, because their bodies are cold and dry.* Among those things which are hot and moist wine is very agreeable to old men, and is therefore called *old mens milke*, for it cherishes their weak heat, repairs their strength, and concocts the crudities wherewith they do abound, consumes & dryes up the excrementitious moistures, & evacuates them by urine, it expells sadness and induces mirth; and therefore it is elegantly said by *Plato in his* 2. *de Leg.* that *God gave wine to men as a healthful remedy against the austerity of old age, that they might seem to wax young again, and forget sadness, making the hard constitution of man tender, as iron put into fire grows more tractable and soft. Yet beware* to take too great a quantity thereof, for so it will consume the natural moisture, and beget catarrhs. That wine is to be chosen which is strong, thin, fragrant, of a good savour, midling age, and yellowish colour. Thick wines are naught for old men for they cause obstructions, bind the belly, and do not provoke urine, like the former. Hydromel is also profitable for old men to the prolonging of life, as *Pliny* declares *l.* 22. *Hist. Nat. c.* 24. of *Pollio* a Roman, who lived above a hundred years, and being asked by *Augustus* by what means he had preserved that vigour of mind and body, he made this short answer, within by wine, said he, and hony, without by oyle. Raw hony (so it be very good as that of *Nacor*) is very profitable for old men, eaten with bread at breakfast or supper.

The quantity of meat ought to be less for old men then for any other age. For the heat of old men is weak, not being able to concoct much meat. This *Hipp.* teaches *Aph.* 14 *Sect.* 1. *In old men there is little natural heat, and therefore they require something to cherish it, for it is extinguished by many things. For as Galen saith in com.*

though the flame of the lamp be nourished by oyl, yet if a man should poure too much, it would be extinguished by its own nourishment: so in old men the natural heat hath some things that nourish it, yet if it be clogged with too many of those things, it is in danger to be extinguished; as if a man should heap a great pile of wood upon a little spark of fire.

CHAP. X.

Of diet convenient for every season of the year.

IN the winter a more copious, hot and dry diet is to be observed then at other seasons: (See Gal. in comment.) But for drink it must be more sparing, and wine more pure. It is requisite the nourishment should be more hot and dry, that it may the better resist the coldness and moistness of the winter aire, and that the flegme which gathers in the winter season may be better consumed. It ought to be more copious, because the natural heat is most vigorous in winter, as *Hipp.* teaches, *Aph.* 15. *Sect.* 1. *The regions of the belly are most hot in the winter, and spring, and the sleeps longer; and therefore for that season the nourishment ought to be more copious. For then the natural heat being most vigorous requires most nourishment.*

But the drink ought to be more sparing, because then the body abounds most with humors, and it ought to be the stronger, to correct the inconveniences that proceed by the coldness of the season.

In the spring diet ought to be more moderate both in quantity and quality, yet more hot and copious then in the summer, but less then in the winter. Whereas the spring is the most temperate of all the seasons of the year, therefore it requires the most temperate nourishments, and most moderate as to their quantity. Notwithstanding because the regions of the belly are very hot also in the spring, as *Hipp.* teaches in the forecited *Aph.* therefore the quantity of meat ought to be greater then at other seasons except the winter. Nevertheless it is to be noted that the beginning of the spring retains something of the nature of the winter; but still as the spring goes forward, the diet is to be changed, that it may come to be more cold, moist, and less in quantity, which is most convenient for the approching summer.

In the summer cold and moist diet is most convenient, and a small quantity thereof, but with a greater measure of drink.

The heat which the summer brings upon our bodies is to be corrected with cooling and moistening diet. Which seemeth to be the intent of nature it self, which then produces plenty of fruits and salads. Now the natural heat being at that time more weak, little nourishment is to be taken, that it may be the better concocted.

In Autumn a little fuller, hotter, and drier diet is to be used then in the summer, though less at the beginning which is nearer to summer, then at the latter end, which requires a more winter-like diet.

It hath ben said before that the alteration of diet is to be made by degrees, that nature may the better endure it, which is to be observed in Autumn as well as at other seasons.

CHAP.

CHAP. XI.

Of Bread.

THat Bread which is most convenient for nourishment and for the health of the body, is to be made of the purest meal of wheat, leaven'd, well bak'd, and full of eyes, moderately season'd, but new, though more, so stale as twenty four hours will make it.

After we have set down the general rules concerning the use of meats, now we shall set down some more particular and more necessary observations which regard those meats which are more principally in use; omitting the rest which would make the work tedious, and may as well be found in those Authors who have writ particularly of the faculties of meats.

Beginning therefore with Bread, which is the first foundation of nourishment, we say that it ought to be made of the purest wheat-meal. For of all grain which is fit for Bread, wheat is most to be valued: of which there are many sorts, but that sort which is best for Bread is well known to every Countrey, and even among the vulgar. *Matthiolus* upon *Dioscorides* gives these Characters of the best Wheat, *viz.* that it should be hard to break, thick, heavie, of the colour of gold, clear and smooth, of three moneths age, ripe, clean, and that grew in a fat soyle.

Of the pure meal of such wheat Bread is to be made, cleansed from all branny matter, and is called the flour of meal.

This bread is that which nourishes most of any other, though that which hath bran mix'd among it, loosens the belly more, by reason that the bran hath an absterstive faculty; And for that cause, some who are much bound, do mix bran with the meal to keep the belly more soluble: Others add a little Rice, which by reason that it is more moist, keeps the belly more laxative.

The best Bread ought to be leaven'd, because by that the viscous and tough paste is attenuated, and (as *Plato* saith in *Timeus*) altered into an airy substance, and makes it swell to a greater bigness, whereby the Bread becomes light and full of eyes, which are other properties of good Bread. But that Bread which wants leaven, or hath not enough, is hard of digestion, oppresses the stomach, and begets terrible obstructions. Neither is the opinion of *Celsus* any hinderance to this, who saith *l.* 2. *c.* 28. that leaven'd bread is most liable to corruption, but that unleaven'd bread is least subject to putrefie in the body, for that opinion is rejected by *Ronseus*, *Bruyerinus*, *Merculius*, and *Silvaticus*, as false and erroneous. Yet it may be excus'd, if we add one word to the sentence, saying that Bread too much leaven'd, easily corrupts the body, but not that which is not overmuch leaven'd. Though perhaps that was not the intention of the Author. And indeed I know not how he can be excus'd, when as in the same Chapter he reckons honey among those things which are easily corrupted, when as honey is incorruptible, and being mingled with those things which are corruptible, keeps them from corruption; as in horary fruits, which being preserved with honey, cannot putrefie. Therefore *Mercurialis*, a Critical Judge of Authors, who also hath set forth an elegant censure of the Books of *Hippocrates*; boldly passes his judgement upon *Cornelius Cel-*

sus, saying that he was no Physician; I shall repeat his own words, *Tom.* 4. *consult. med. consil.* 10. written to *Bernardinus Castellanus*, where he saith thus, *That place of* Celsus *concerning unleaven'd Bread, was alwaies by me suspected, whom we may conjecture to have been no Physician, by that which* Plinie *a later writer hath left written,* who saith, *that there was no Roman untill his times, that practised the art of Physick: and for that cause they committed many errors in things that concern'd the practise of the Art: for experience teacheth, that leaven rightly used, makes the Bread lighter, and therefore of more easie digestion, and lesse troublesome to the stomack; and if there were nothing else to confirm it, yet the general custome and consent of all Nations were enough to shew that leavened Bread, for healths sake, is much better then that which is unleavened.*

The Bread ought also to be well bak'd; for if it be ill bak'd, it oppresses the stomack, and is of hard digestion, which *Avicen* teaches, *Canon.* 2. *Tract.* 2. saying that ill-bak'd Bread nourishes much, but if any private and sedentary person use it, he will be presently troubled with obstructions.

It ought to be seasoned with a little salt, for salt like leaven attenuates the thick and slimy substance thereof, and makes it lesse liable to beget obstructions. Yet the quantity thereof ought to be moderate, for if the Bread be too salt, it dries overmuch.

It ought to be new and not above 24. hours old, for stale Bread is hard and dry, and of a hard digestion, oppresses the stomach, and bindes the body: but that which is too new and newly drawn out of the oven, retains a clammineſſe, so that it swels and obstructs the bowels. Besides, if it be hot from the oven, it retains a fiery heat, which troubles the spirits and hurts the natural heat, as *Arnoldus Villanova* writes in his book of those things which prolong youth.

The crum is more fit for nourishment, for the crust dries too much, and begets adust and melancholy humors.

This rule is confirmed by the common verse of the *Salern* School.

Beware how thou eatest crust,
For it produces choler adust.

But notwithstanding they who have moist stomacks may use it, so that it be not burnt. Chiefly after meals, it is profitable to all men, for it bindes up the mouth of the stomack, and helps concoction.

All fulnesse is evill, but especially of Bread.

Although Bread nourishes more then any other thing, yet if it be eaten in too a great quantity, it brings great harm to the body: for it hath a clammy substance, which is the reason that it nourishes so much, and therefore if it be taken in too great a quantity, it cannot be well concocted, and consequently not well attenuated in the stomack, so that it sticks in the veins of the Mesenterion, and is the cause of very great obstructions. Which *Avicen* teaches in *Can.* 3. *l.* 1. *Doct.* 2. *c.* 7. speaking to this purpose; the impediment of Bread when the stomack does not concoct it, is very great; that of flesh is not so much: for it lies long and burdensome in the stomack, and not being sufficiently concocted, fals down and obstructs the Liver, and mesaraick veins. But Flesh hath a greater likenesse to the body of man, so that it is the lesse dangerous, and the obstruction not so great, which it causes, and sooner recoverable; the members more quickly drinking in the juice of the flesh, then that of the bread, by reason of the near resemblance between them.

CHAP. XII.

Of Barly, Rice, Oats, Beans, Peaſe, Vetches, and Lentiles.

BArly is cold and dry in the firſt degree: yet the outward huſk is dryer then the inner mealy part, they have both an abſterſive quality, though the huſk hath more of that quality.

Sometimes Bread is made thereof, which is colder, and affords a leſſe firm and ſtable nouriſhment.

There are alſo made Barly Broths of peel'd Barly, boyled in water, adding thereto bruiſed Almonds and Sugar.

It is boyled ſometimes with a piece of a neck of Mutton, which is afterwards ſtreined and drunk, putting to it ſometimes a little Sugar.

Theſe Barly Broths are good for hot and dry conſtitutions, refreſhing lean people and ſuch as are troubled with the Conſumption, tempering the acrimony of the humors, and refreſhing and fatning the body.

Here we ſet down things that are only proper for people in health, for things proper for the ſick belong not to this place, and therefore we refer the Ptiſan of the Antients to the Diet of ſick perſons.

Rice is temperate in the firſt qualities, a little inclining to hot and dry, it nouriſhes much boyled with milk and porrage, though it be harder of digeſtion, and affords a thicker nouriſhment.

Therefore it agrees beſt with young men and ſuch as labour; and the frequent uſe thereof by reaſon of the thickneſſe of the ſubſtance begets obſtructions, becauſe of the thickning, and binding faculty which it hath; it is very good for ſuch as are ſubject to bloudy Flixes, Lasks, Dyſenteries, and other affections proceeding from a defluxion of thin humours.

Oats ſerve not only for provender for horſes, but alſo for meat for men. For there is made a drink of peel'd Oats boyled in water, adding thereto a little Sugar, and Almond milk, which is lighter then Barly-water, and therefore more eaſily concocted; it moves urine, becauſe of the thinneſſe of the ſubſtance, as alſo by reaſon of its temper, which inclines to heat.

Beans are us'd either dry, and that by the vulgar ſort, and people of mean degree, or green, which is accounted among the more delicate diſhes, or boyl'd in pottage, or fry'd in a pan.

However they are prepared, they are of ill digeſtion, and hardly diſtributed; they increaſe thick and flatulent humours, they ſwell up the belly, and beget a difficulty of breathing, and withall binde the belly: they obſtruct the Liver, Spleen and Meſeraick Veins; they ſend many vapours to the head, ſo that they hurt the eyes, and cauſe turbulent dreams, being of a cold and dry temper; yet the green are moiſteſt.

Although Beans are reckoned among the worſt ſorts of nouriſhment, yet they afford excellent medicines; which although it be not our intention here to reckon up, where we only diſcourſe of the matter of nouriſhment, yet we ſhall here contrary to the method of our Theorems, briefly touch upon them, as being moſt uſefull, and which we have known by certain and daily experience.

And firſt there is a water drawn from the new ſhales of Beans moſt profitable for

such as are troubled with the Stone; for it cleanses the reins, and hinders the generation of the stone, if the patient drink thereof in a morning, at several times two or three ounces thereof. It is very profitable for such are troubled with a hot distemper of the veins, because it is cold and moist; when as all other nephretick medicines are extremely heating.

Of the dry'd shels of Beans, and the stalks burnt are made a sort of Ashes, which being boyl'd in water of Pellitory of the wall to a kinde of lye, and taken for some mornings to the quantity of five or six ounces, with an ounce of syrup of Maidenhair, like a julep, cures efficaciously all contumacious and stubborn Gonorrhœa's. The same is most excellent against the stone hanging in the ureters, causing there very great pains; for it removes it presently. The same effect is performed by a salt drawn from the said ashes, and given to the weight of a dram in water of Pellitory of the wall.

Outwardly also Bean-meal is applyed with very great successe in many affections, especially in inflamations of the testicles, which often proceed from an ill cured Gonorrhœa. Most Chirurgeons, who are oftner consulted by ignorant patients in venereal diseases then the Physicians, observing an extraordinary hardnesse of the inflamed testicles, presently apply mollifying Cataplasms, which increase the inflamation, when as that soft and spongy part, by these dissolving Plaisters are made more fit to receive the flux of the matter. Therefore those tumors are to be cured with astringent and discussing medicines, to which purpose a Cataplasm made of Bean-meal, boyl'd in Oxycratum, extraordinarily conduces. This plaister is to be often changed and renewed, because it suddenly dries up, by reason of the want of fat ingredients which are mingled in all other Cataplasms. Though they are not here convenient, because they inflame the part. Yet there may be added to this Cataplasm, that the sudden drying thereof may be hindred, a little simple Oxymel, which hath a faculty both to discusse and binde.

Pease are to be preferred before all other pulse, being in the middle between things of good, and bad juice, things easie to digest, and hard to concoct, as *Gal.* testifies 1 *de Alim. facult. cap.* 21. and endued with no excessive quality, and so coming near to a middle temper. Yet cold and dry is a little predominant: they are prepared divers waies, both green and dry.

They are more easily concocted being shal'd, and strained after they are boyl'd; for the shales are of hard digestion, evil juice and astringent. The dry are preferred before the green, being lesse windy, and of easiest digestion; but either of them, as as all other Pulse, are hurtful to melancholick persons, and such as abound with thick humours and obstructions.

Chiches have a thicker substance then Pease, and are of a harder concoction, both within and without the body; for they aske longer time of boyling ere they grow soft, neither doth any water boyle them so tender, as rain or the purest and thinnest fountain water.

Nevertheless there is made of them an excellent Broth which hath a cleansing opening faculty, and which provokes both urine and the flowres, for which uses the blackest are most commended, which are therefore called medicines amongst the vulgar.

Our Countrey women make a kinde of Broth to provoke the flowres, of black Chiches, roots of Petroseline and Saffron, which they give for three daies together, the evacuation being begun, or near beginning.

Lentiles are the worst of all Pulses, being of a cold and dry temper, hard of digestion, and begetting a melancholy juice, they breed obstructi-

ons,

ons, hurt the sight, excite tumultuous dreams, hurt the head, nerves, and lungs, binde the belly, stop the urine and the Courses: which proceeds from their thick and binding substance.

CHAP. XIII.

Of Pot-herbs most in use, and their faculties.

LEttice, *as* Galen *saith, begets the best blood of all Pot-herbs, but little, being cold and moist, it provokes sleep, increases milk, loosens the belly, cools the heat of the stomack, represses the acrimony of all the humours, it agrees best with cholerick, sanguin and young people, especially in the summer. It is eaten raw in Salads; as also boyled in broth, it agrees best with those who have a weak stomack. The often use thereof weakens the sight, as* Dioscorides *saith.*

Many relate that the juice of Lettice drunk to the weight of three or four ounces, kils like other poysons. Yet should so much Lettice be eaten as would yeeld the same quantity of juice, it would do no hurt. The reason of which is twofold, the first is because that whole Lettice remains longer in the stomack, so that the coldness is corrected by the long concoction thereof, but the juice quickly pierceth to the vitals, the second is because that Lettice is amended by the mixture of salt, oyle, and vinegar, and sometimes sugar also.

Colewort, as *Galen* saith 3. *simpl. cap.* 15. hath a double substance, juicy and earthy; the one hot in the first degree, and nitrous, the second cold and dry. The nitrous juice is sharp and absterstive, and therefore moves the belly; but the body of it is thick, dry, earthy, astringent, and for that cause bindes the belly. The thinner part of the juice is drawn out by the first boyling of the Cabbage, and therefore that first broth moves the belly, the third and second doth not so. Cabbage gives little nourishment, and breeds not good humours like Lettice, but rank and vitious.

The ill juice thereof is seen first by the decoction thereof, which smels rank, especially that which hath the heads cut off. Besides, Cabbage putrifying in gardens yeelds a most noisome smell.

Cabbage eaten before other meats, drives away drunkennesse; and taken after meat, repels the violent vapours of wine.

This vertue of Cabbage to expell drunkennesse, proceeds from the antipathy which is between that and the Vine. For Vines will not grow in the same soyle with Cabbage.

But it is of hard concoction, and breeds thick and melancholy humours. It exhales much, and by sending up thick vapours to the brain, it disquiets the minde and disturbs the sleep.

It hath a certain agreement with the Lungs, and therefore the use thereof is the lesse troublesome to those who are troubled with diseases in the Lungs.

But red Cabbage is reckoned among the herbs fit for wounds.

That Cabbage is good for the diseases of the Lungs, the medicines do manifest which are made of them. The *Pharmacopœa*'s do commend a looch made of the stalks.

ſtalks. We have ſeen admirable effects thereof in Aſthma's and other diſeaſes of the Lungs made with the juice of red ſtalks reduc'd into the form of a Julep with Sugar. Old Ulcers are healed by a fomentation of the water of Catapults, and afterwards by applying a leaf of red Cabbage moiſten'd in the ſaid water. Water of Catapults is made of the roots of Birthwort, Gentian, Radiſhes, and Wormſeed, of each one ounce, boyled in three pintes of White-wine to the conſumption of half: afterwards diſſolving in it four ounces of Sugar.

Beets come neer the nature of Cabbage: for the juice thereof is ended with a nitrous quality, abſterſive and ſomething ſharp, which cauſes it to looſen the belly, ſo that it inclines to a hot and dry temper. But the earthy part thereof is cold and dry, and binding.

It is a diet common to Countrey people and poor folks, whence *Martiall* cals Beets the *dinner of ſmiths*: but their likeneſſe to Coleworts, as alſo their looſening or binding faculty, by reaſon of the diverſity of their ſubſtances, we may gather from the two verſes, the firſt whereof is concerning Beets.

Beets nouriſh little, I muſt tell ye,
They do both binde and looſe the belly.

The other concerning Coleworts or Cabbage, comes from the *Salern* School.

Of Cabbage this for certain we do finde,
The broth doth looſen, but the ſubſtance binde.

Spinage is moiſt and cold in the firſt degree. The ſubſtance thereof is watry and almoſt inſipid. Therefore it deſcends quickly and looſens the belly. It cleanſes the breaſt, ſmooths the rough artery, and heals a cough: it nouriſhes little, breeds much ſerous humour, and wind, it begets a nauſeateneſſe, unleſſe ſeaſon'd with ſpice.

Endive cools, opens and cleanſes, and therefore is moſt uſed among all herbs both raw and boyl'd. It is good for a hot, weak and obſtructed Liver, it helps a weak and cholerick ſtomack. It purifies the bloud, heals the itch, allayes thirſt and heat in the ſtomack, it begets an appetite, and is good for thoſe that are troubled with the Jaundiſe.

Succory hath the ſame vertues that Endive, but much more efficacious by reaſon of its bitterneſſe, for which cauſe it opens more, cleanſes, and is more pleaſing to the ſtomack.

Sorrel is cold and dry in the ſecond degree, it cuts, opens, moderately bindes, nouriſhes little, helps the hot diſtemper of the bowels, allayes thirſt, excites the appetite, tempers the acrimony of choler, clears the heart, and reſiſts poyſon.

Borage in the active qualities is temperate, in the paſsive moiſt in the firſt degree, it purifies the bloud, reſiſts the melancholy humour, and cleanſes the heart.

Purſlain is cold in the third degree, moiſt in the ſecond, it nouriſhes little, it cools and thickens the bloud, it tempers the heat and acrimony of the bloud, allays thirſt, excites the appetite, kils worms, duls the ſight, cools venery, which is common to all refrigerating plants, if a man uſe them plentifully.

Parſly is hot and dry in the third degree; it opens, provokes urine and the flowres, diſpels winde, and therefore is good for thoſe that are troubled with the ſtone.

Rocket is hot and dry in the third degree, and therefore is not eaten alone, but mixed with other herbs which are cooling, and are correctives to it, it helps concoction, and moves luſt, if it be taken in any quantity.

Naſturtium,

Nasturtium, Water-cresses agree with Rocket both as to the temper and quality, they open, attenuate, cut, expel gravel, and therefore good for the blaader and reins.

The garden and watry sort are used in salads; both of them are good for splenetick people, and are reckoned among the remedies against the Scurvy, and as some think they do not give place to Scurvy-grasse.

Pimpernel cools moderately, bindes and dries. It is used in salads, it hath a good savour and smell, it is cordial and induceth mirth, and therefore is steep'd in Wine.

In Physick there is great use of Pimpernel, so that it is prescribed in Juleps and Apozems very frequently, especially in malign Feavers. By reason of its binding faculty, it is used in all Fluxes of the belly and of the bloud: a light decoction thereof used in common drink, cures the dysentery. The water of Pimpernel distilled is used to cure Ulcers of the Lungs, Conserve of Roses being first dissolved in it, and so streined. The powder thereof used often is also exceeding profitable.

CHAP. XIV.

Of Roots fit to eat.

RApes and Turneps are of the same nature, they are moderately dry, and moisten. They are eaten boyled with flesh, or else alone with oyl or butter, they afford little nourishment, they breed a thick juice, they beget inflamations because they are windy, they increase milk and seed, they excite lust, move the urine, they asswage inflamations of the Chaps and Lungs, they temper the melancholy humour, and are therefore by Crato *commended against a Quartan.*

Parsnips are hot and dry in the second degree; they afford thick and melancholy nourishment, and are of hard digestion; they excite lust, are diuretick, and move the courses.

Radishes are hot in the third and dry in the second degree. Yet there is some difference between them. For those that are most biting are the hottest, the sweet ones more temperate: they afford little and bad nourishment, and are rather a sawce then nourishment. For they are used as a sawce for meat, and an incitement to the appetite.

They are of hard digestion, beget winde, and unsavoury belchings; cause pain in the head, filling it with vapours, they provoke urine and the flowres, they break the gravel. And by opening, cutting, attenuating, are good for the splenetick, but they hurt the eyes by reason of their sharp and biting humours. The Salern *School adds that the resist poison.*

Garlick is hot and dry almost in the fourth degree, for outwardly it exulcerates the skin, but it is weaker being boyled then raw, and moves urine, excites the flowres, begets wind, and hurts the eyes; it helps the concoction of the stomack, if it labour with a cold distemper, if you swallow some whole cloves in a morning like pills.

It opens the obstructions of the bowels, cuts thick and clammy humours, and cleanses them; it purifies the lungs, and makes the voice clear; it kils worms, and resists poyson, so that it is called the Country-man's Treacle.

Galen l. 3. de temper. c. 3. makes enquiry why Garlick, Onions, and Mustard, being put on the skin do ulcerate it, but being eaten do not at all gnaw the inward parts. He answers, because they are concocted in the stomack, and other parts, and do

do not remain in the same place, but are dispersed through the body, and because they are mixed with many and several meats, which is the chief reason.

Onions are hot and dry in the fourth degree, for they are sharp and biting, yet there is some difference according to the more or the lesse of their chief qualities, as we have said of Radishes; and among these differences, the long one is more sharp then the round one, the red then the white, the dry then the green, the raw then the boyled; they afford little and bad nourishment, they breed flatulous spirits, and with long use, pain in the head; they cause troublesome dreams, they hurt the eyes and the gums by reason of their sharpnesse; they cut, attenuate, open, and move urine.

Though the Onion give bad nourishment, yet is it an excellent medicine, and conduces much to the cure of many diseases. And first, Onions rosted in the cinders eaten with butter, are good for those that are troubled with coughs and Asthma's. This they do being boyled in broths. Being dipt in vinegar and eaten in a morning, they prevail against the stone. The water thereof distilled in Maries Bath; which sugar'd, doth miracles in the same affections. If they be cut into round pellets and steeped in water all night, the water given to children, kils the worms. Outwardly applyed, they provoke urine. For this purpose there is a cake made of slic'd Onions fryed in a pan with eggs, to be applyed to the hairy parts to provoke the stop'd urine. Or else the little skins are put into a little bag and boyled in Wine, and applyed to the same part. They will be more effectual, if the place be first anointed with oyl of Scorpions.

Onions made hollow and fill'd with bitter Almonds, and rosted in the cinders, and then pressed, give such a liquor as provokes the flux of the Hæmorrhoids, if the seat be anointed therewith.

They being rosted in the cinders and bruised in a marble mortar with a wooden pestle, adding an equall proportion of new butter, asswage the pain of the Hæmorrhoids, and soften and discusse the swelling tumors of those parts.

Leeks are of the same nature, temper and faculties with Onions; but weaker. By Hipp. *they are commended to be good to help conception, not only taken inwardly, but also outwardly applyed by fomentations and Cataplasms.*

This proceeds from their abstersive faculty, by which they purge the womb from slimie humours which hinder the retention and operation of the seed.

Chap. XV.

Of Fruits fit to eat.

ALL Apples are cold and moist, yet they differ in their several kinds according to the more or the lesse. For those that are sowre are colder, and binde the belly; but the sweet are more temperate and loosen the belly.

Raw they are of hard digestion, bak'd not so; they are cordial, especially those that have an odorous smell, and are good against melancholy.

The vertues of Apples against melancholy diseases may be seen by the syrups sold at shops, purposely for such diseases: as syrup of Apples of King Sapor: syrup of odoriferous Apples: as also in magisterial syrups which are prescribed for the said diseases: juice of sweet smelling Apples is never omitted. The power which they have to loosen the belly is known by this, because baked Apples are many times prescribed to those that are bound, an hour before meat.

of

Of Pears as of Apples there are several sorts and several tempers. For those which are insipid are cold and moist.

Sowre, hard and sharp Pears, cold and dry; the sweet ones incline to heat, all of them have a binding faculty, but the sowre and sharp ones a greater, the sweet ones lesse, least of all those which are insipid; bak'd they are best, and fittest for the stomack.

Quinces are of an earthy nature, they binde, cool and dry in the second degree, they cure vomiting and loosnesse, they cheer the heart and give it strength, they resist poyson, and help concoction eaten at the end of a meal, because they shut the mouth of the stomack.

New Damsens cool and moisten, they soften the belly, but nourish little: they are easily corrupted, so that they breed putrid Feavers, Diarrhœa's and Dysenteries, eaten in too great a quantity, especially if they be not very ripe. They are not to be eaten by those who have cold, moist and weak stomacks; as also by old men and flegmatick constitutions. They are convenient for young cholerick and sanguine constitutions in the summer time. Being dry'd they are more wholsome for the stomack, and are not so easily corrupted, they loosen the belly being boyled in water with sugar.

Peaches are cold and moist in the second degree, they breed evil and soon putrefied juice. And therefore Galen *admonishes* 2. de Alim. fac. c. 19. *that they are not to be eaten after other meats; for saith he, they corrupt swimming at the top of the stomack, and therefore they are to be eaten before any other meats, for so they may passe quickly away, preparing the way for other meats, whereas being eaten last, they corrupt the other meat also: their evil quality is corrected with wine and salt: some boyle them upon hot coals like Apples, and sprinkle sugar on them, which is the best way to correct them.*

The precept of *Galen* concerning Peaches, that they should be eaten before other meat, may be referred to all sorts of fruit, which are cold and moist and easily putrefi'd; for being kept long in the stomach they putrefie, and swimming at the top of the other meats, corrupt them also.

Apricocks are much of the same temper with Peaches, but lesse moist, but exceed them in goodnesse, as *Galen* witnesses, neither so suddenly growing sowre nor putrefying so soon. But they are sweeter and more grateful to the stomack, which for that reason doth more suddenly concoct them.

Cherries are much of the nature of Damsens, both in respect of their temper and vertues, yet there is no small difference as to their several kindes: those which are sowre are colder, and lesse subject to putrefaction, the sweet ones more corruptible.

Green Figs, in their active qualities are temperate, in their passive moist: they breed juice good enough, if they be fully ripe. But if they be not fully ripe (which is known by their sending milk out of the stalk when they are gathered) then they breed an evill and corrosive juice, whence arise putrid Feavers and Dysenteries; they easily descend into the belly, and taken before meat they loosen the belly and cleanse it.

Dry Figs are hot in the first degree, endued with an attenuating and abstersive faculty; they corroborate the body, loosen the belly, cleanse the reins, help the cold diseases of the lungs, and open the obstructions of the liver and spleen; being eaten in too great a quantity they provoke thirst, because they are hot; they breed impure bloud, and subject to putrefaction; so that the often eating of them produceth lice and scabs.

Some authors report that they resist poyson, and *Plinie* declares that *Mithridates* carried alwaies about him an Antidote which was made of Figs,

Walnuts, leaves of Rue, and Salt. *Quintus Serenus* sets down the dose of the ingredients 20 leaves of Rue, Salt 1 grain, 2 Nuts, and 2 Figs.

Grapes are the chief of all Autumnal fruits, as Gal. *testifies* 2 de Al. fac. c. 9. *because they nourish more then other fruits, and contain least evil juice; so that they be fully ripe. That they nourish well is seen by those that keep vineyards; for they having kept them not above two moneths, and feeding only upon Figs and Grapes grow very fat. But the flesh which it begets, is lesse firm and solid then that which is produced from flesh.*

The goodnesse of Grapes is not the same in all Countreys, for those that grow in cold places, and come not to perfect maturity, are sowre and sharp, and hurtful to health. On the contrary, those which grow in hot Countreys have a grateful sweetnesse, refresh the body and moisten it egregiously. They are convenient for children, by reason of the great likenesse of their temper, for they are hot and moist. We have seen some children labouring with Hectick Feavers and in Consumptions, recovered meerly by eating Grapes, which they eat in all their meals with bread. But take heed that they be ripe, and if they be given to those that are very weak, let the skins be taken off, lest they should oppresse the stomack. Newly cropt from the Vine they are hot, and retain a fierinesse from the beams of the sun; but if they be kept for two or three daies, they grow colder. Grapes that are hung up are reckoned among the cooling meats.

Raisins of the Sun are hotter, fit to breed choler as all sweet things are: for cold and temperate things nourish well. Of these, those are the best which are covered with a thin skin, and have most nourishment, they loosen and cleanse the belly, but not so much as dry Figs, but they are better for the stomach; and profit the reins, brest and bladder. Galen *doth write that the whole substance of a Raisin of the Sun resembles that of the liver.*

This sympathy which they have with the liver, was the occasion of making the Electuary of Raisins, called also the Electuary of Wine, most convenient for the strengthning of the Liver, and therefore much commended in the Dropsie. We have seen some children recovered from a Dropsie by the use of this Electuary simply prepared. Raisins were boyled in White-wine to the consumption of the Wine, and strain'd through a hair sive; then were they boyled again to the thicknesse of Marmaled: this they used every meal, with some particular purges.

There are much used in *Germany* and other places, laxative Raisins, very convenient for those that are bound, and for children that cannot endure the taste of other medicines. The description whereof is in the Imperial *Pharmacopœa*, after this manner.

℞ of Sena of Alexandria ʒiiij. of the best Cinamon, Ginger, an. ℈iiij. Endive-water and White-wine an. ʒiiij. Infuse them for 6 or 8 hours, let them boyl and presse them gently. To this decoction, after straining, add of white Sugar ℥iiij. boyl them to the thickness of a Syrup, then put in of the lesser Raisins pickt ʒxij. Then boyl them according to art to a just measure.

Sweet Almonds are moderately hot, having a fat and oily nature: they attenuate, cleanse, move urine, free the Lungs from obstruction, and soften the roughnesse of the Lights. They nourish abundantly, and breed good juice, but thick: they increase seed, provoke sleep, because they are full of vapours and hard of digestion, through the thickness of their substance. They are prepared many waies for the palat, by Cooks, Bakers, and Comfitmakers.

Pine nuts come near the nature of Almonds: they are hot and moist, and breed ill juice, and are of hard concoction, they increase milk and seed, and provoke venery; they

they cleanse, moisten, refresh and pinguefie, so that they are wholsome for such as are troubled with Coughs, Ptisick, and Consumption.

Filberds come near the temper of Pine-apples and Almonds, but they are of harder digestion, and oppress the stomack, eaten in too great a quantity they swim at the top of the stomack, causing wind and pains of the head. They are good for those that are nephritick, being eaten before meat, and preserve them from the stone.

Walnuts are hot and dry, they nourish little, are of hard digestion, hurt the stomack, encrease choler, cause pain of the head, and are hurtful to the Lungs; they expell the worms, being preserved with Sugar when they are green, the rinde first taken off; they corroborate the stomack, they resist poyson being dry, as before we have said in our discourse of Figs.

The *Salern* School teaches, that they are to be eaten after fish; the reason of which precept is because that fish are cold and moist, beget flegm, and are easily putrefied, especially in a weak, cold and moist stomack. Some also which live in muddy and standing waters are dangerous: but dry nuts heat and dry, expel putrefaction, and resist the malignant quality.

Chesnuts in their active qualities are temperate, inclining to heat, in their passive, dry; they give a nourishment copious enough, but of hard digestion, produce a thick juice and excite wind: they binde the belly. Boyl'd with fennel they are lesse windy, then rosted, which do much swell the stomack, yet they may be corrected many waies, which the Cooks best know.

Melons are cold and moist, they quench thirst, move urine, are easily putrefied, and being corrupted, come neer the nature of poyson, whence proceeds a cholerick disease and malign Feaver.

Their evil quality is corrected, if they be eaten with much salt, and eaten in a little quantity before meals, that they may be the better digested, and sooner descend to the guts; if Wine be drank after them and meat of good juice follow in the same meal.

Some say that Wine after Melons is naught, because it carries their evill juice sooner to the innermost parts of the body, where it doth more harm. But that may be, if the Wine be weak, watry, and lesse potent, or drank in a small quantity, but if it be generous Wine, drank in good quantity, it corrects the fault of the Melons, causing a good concoction thereof, so that the juice of them being carried to the veins, looseth its evill quality.

Cucumers are cold and moist almost in the third degree, they afford ill juice to the body and easily putrefi'd, whence in Malignant Feavers they afford matter for Diarrhœa's and Dysenteries.

The Gourd or Pumpion is cold and moist in the second degree, it nourishes little, begets bad juice, yet more wholsome then that of Cucumers; it is used most commodiously in Broths in hot seasons, for it cools and moistens, and tempers the heat of the choler.

Artichokes are hot in the second degree, and dry in the first, they increase wind, excite venery, and cause heavinesse in the head. The *French* men make this meat to be of an evil juice, and especially when it grows a little hard. For then it hath cholerick juice in greater quantity, and a more wooddy substance. So that the substance increases melancholy humours, and the juice thereof cholerick and a dust.

Chap. XVI.

Of Animals fit for nourishment, and first of Flesh in general.

THE Flesh of Animals is very different, not only as to the several kindes, but also as to the same species, in reference to the age, countrey, food, habit, gelding, sex, and preparation.

The Flesh of young living creatures, especially of those newly born, is slimy, soft, moist, and excrementitious, especially where they are most moist by nature; yet it is sooner concocted, and makes the belly soluble.

The Flesh of those that are old is hard, dry, nervous, hard of digestion, giving little and bad nourishment.

But the Flesh of those that are of a midling age, is of a midling constitution.

Those which feed in moist and mooriſh places, have moist flesh, and full of superfluities; but they that feed on dry places and mountains, are void of excrements, more easie of digestion, and apter to nourish.

The Flesh of wilde beasts is lesse excrementitious and dryer then that of tame ones, whose flesh is more moist and excrementitious.

Lean and extenuated Flesh is hard and dry, hard of digestion, and giving little nourishment; but those which are fat and full of grease, and over moist, hurtful to the stomack, breeding nauseateneſſe, if the fat be excessive. But if it be neither too lean nor too fat, for goodneſſe of substance and sweetneſſe of taste, it is to be preferred above the rest.

Those creatures which feed in places where there are good pastures, are sweeter and more nourishing. So the Sheep which in our thickets feed upon thyme, lavander, rosemary, and other aromatical plants, have much sweeter flesh then those that feed in mountains, where those plants are not. So mountain Partridges are lesse sweet then those that feed in the low woods.

The Flesh of gelt beasts is more tender, sweet and of an easier digestion: as appears in Wethers, Oxen, Barrow-hogs, and Capons.

The flesh of the male is to be preferred before the flesh of the female, because the males are hotter and dryer, and more laborious, and lesse burden'd with excrements, as appears in Oxen and Wethers.

Boyl'd Flesh is moister and sooner descends.

Rosted Flesh the dryer, because the fat and moisture is consumed by the fire; fry'd it is more dry, and acrimonious; being seasoned with salt and spices, they are yet hotter and dryer.

Concerning Flesh rosted and boyled, there is a doubt moved by *Aristotle*, *Prob.* 54. *sect.* 1. where he affirms, that rosted Flesh is moister then boyled. Which seems repugnant both to sense it self, and to the Theoreme set down. Yet the question is resolved by saying, that rosted Flesh hath more of its own proper and naturall moisture, but boyl'd hath more adventitious, which is suckt in while it lies in the water; being dryer, by reason that their proper moisture goes out all into the broth: which is the reason that they nourish lesse then rosted meats, if they be eaten apart and without their liquor.

Boyled Flesh is best for those who are yet growing, and therefore of a hot temper,

temper, as also to those who are sick of hot and dry diseases; and that chiefly in hot and dry Countreys and seasons of the year. But rosted meats are most convenient for those who are of a cold and moist temper, who are loose, and subject to cold and moist diseases.

CHAP. XVII.

Of the Flesh of four-footed Beasts.

THE Flesh of Wethers in our Countrey is the best and most in use, and most convenient for every age, complexion, and time. 'Tis temperate or at least moderately hot and moist. That is best either to rost or boyle, which is of Wethers of one or two years old, nourished in pure air and good pasture.

Flesh of Ewes is of an evil juice, excrementitious, hard of digestion, by reason of its slimy and clammy substance, and frequent breeding.

The flesh of Lambs is moist, flegmatick, and mucous, and for that cause not to be used in the judgement of *Galen*, *l. de vict. atten. c.* 8. which is to be understood of Lambs newly dropt from the Ewe; not of those which are grown, for they give good nourishment, and are of easie digestion. Hence the flesh of them is most convenient for those which are of a tender and delicate constitution, and who exercise little. Besides there is a difference in the Countreys where they grow, For at *Paris* Lamb is much valued, with us Kids flesh is preferred before it.

The flesh of Kids is moister then that of Lambs, and therefore to be preferred especially with us; it nourishes moderately, generates a thin and moist bloud, loosens the belly, and is better rosted then boyled.

The flesh of Oxen is hot and moist, being absolutely considered, because all flesh is of that temper, as being made of hot and moist bloud. Comparatively though in respect of other creatures, it is hard and dry, of hard digestion and bindes the belly; it generates a dryer and melancholy bloud, it affords a firm nourishment if it be well concocted, and therefore profitable for strong bodies and those that use much exercise.

Veal in its active qualities is temperate, in the passive moist, of a good juice, easie concoction, and fit for both healthy and sick people. But it is more convenient for those that live soft and sedentary lives, and for such as are of a tender constitution, then to Porters, Mariners, or Ditchers, and others who undergoe hard labours, for whom Beef is more convenient.

Hogs flesh in the active qualities is temperate, in the passive moist: *Galen* affirms it to be most like the flesh of men, and that it nourishes above all meats; it hath a thick and clammy juice, and therefore affords a firm and durable nourishment which is not easily dissipated.

The flesh of Pigs is very moist, mucous and flegmatick, more excrementitious then the former, and moister; so that it nourishes lesse. The nourishment which it gives is easily distributed by reason of the thinnesse of the substance.

The flesh of Hares is dry, hard, and thick, the parent of melancholy bloud, which is to be understood of the old ones; for the flesh of Leverets is very delicate, and equally esteemed with Partridge for daintiness: those to be preferred which are not above 2, 3, or 4 moneths old.

Rabbets come next the nature of Hares, though here the difference lies between them,

them, that Rabbets are best which are of midling age. The older are dry and hard, those which are too young, call'd sucking Rabbets are overmoist and excrementitious. The wilde ones are preferred before those which are tame, as being lesse moist and excrementitious. The tame ones which are brought up at home, are fatter indeed, and more fleshy, but much inferior in taste and wholsomenesse to the wilde ones; they taste of the pasture where they feed; and therefore if they eat Cabbage, as sometimes they do, they taste abominably. If they eat wheat, they grow very fat, and afford a delicate nourishment. The wilde ones which in our thickets are fed with Thyme, Lavender, Origan, and other aromatical herbs, afford a pleasant and wholsome nourishment.

Chap. XVIII.

Of the Entrails and extreme parts of Beasts.

The substance of the Liver considered in the generation thereof, affords a thick nourishment, and of hard digestion and fit to increase obstructions. Yet there is great difference in respect of the several sorts of creatures, from whence they are taken. For the Livers of Hens, Capons, Geese, Chickens, and Pullets, are excellently good. But concerning the Livers of four-footed Beasts, those of Kids, Calves, and Hogs, yeeld an indifferent good nourishment.

The Spleen produces a melancholy juice, and affords a very depraved nourishment: which is hard to be concocted and distributed. The Reins are of a hard concoction by reason of the solidity of the substance, wherewith they are endued; they breed a thick juice and evill, by reason of the various and excrementitious humours which continually oppress them.

The Heart hath a kinde of fibrous flesh, solid and hard, and therefore is of a hard digestion, slowly distributed, and generating an evill juice; yet if it be well concocted, it affords not a little nourishment, and that not evil.

The Lungs are of an easier digestion then the Liver and Spleen, because they are softer and looser, yet not inferior to the Liver, as to nourishment.

All Kernels have this common among them, that in meat they appear sweet, tender, and short; they give a thick nourishment; and if the beast be sound, very good, and being well concocted in the stomack, they nourish as much as musculous flesh. Not well digested, they breed flegmatick and raw juice; this is chiefly to be understood of the Kernels of the brest; for of other Kernels, those which are soft generate flegmy bloud, but those which are hard, raw bloud.

The tongue of Calves, Kids, Lambs, Hogs, and Sheep are of easie digestion, and breed laudable juice. Neats Tongue is thicker, but more fit for nourishment, and not dry'd.

The Brains afford a flegmatick diet, of a thick juice, hard to be concocted, slowly descending, it banes the appetite, and causeth nauseousnesse.

Fat and Grease are of little nourishment, and rather sawce for our meat then nourishment. They loosen the tunicles of the stomack, and spoil the retention thereof; and therefore they breed nauseousnesse, and dull the appetite. In cholerick bodies they turn into choler, and are of hard digestion.

The substance of the Stomack is filmy, and therefore cold, hard, dry, and glutinous. It is of a hard digestion, generates flegm, begets obstructions, and is the cause

cause of many diseases. Soft and Sedentary men must abstain from it; it being only fit for Porters, Ploughmen, and Mariners.

The same reason serves for the Guts, because they are of like nature; but the Guts of younger creatures, as of Lambs and Kids, are of an easier substance and concoction.

The Feet and other extreme parts of four-footed Beasts consisting of membranes, ligaments, nerves, veins, arteries and gristles, are cold and dry, clammy, viscous; of little nourishment, and hard digestion. We except the extreme parts of young and sucking Animals, as before where we spake of the Stomack and Guts.

CHAP. XIX.

Of the nourishment contained in the parts of four-footed Beasts.

THE Bloud is hot and moist, hard of digestion, and breeds many excrements. For although while it is contained in the veins, it easily turns into the substance of the body; yet after it is drawn out of them and hath lost its spirit and vigour, it congeals and hardens into an evil substance.

Marrow is hot and moist, it gives good nourishment, if it be well concocted; taken in too great a quantity, it loosens the stomack, and begets a nauseousnesse.

Milk in the active qualities is temperate, inclining to cold; in the passive, moist; by reason of the fat and watry substance, thickning through its caseous *or cheesie quality; and abstersive in respect of its* terous *quality; assuaging in respect of its* butyrous *quality.*

That is best, which is white, clear, pure and sincere, sweet, voy'd of all acrimony, sowrenesse, bitternesse, and saltnesse, rendring a sweet, but little sent.

For its substance moderate, neither over thick or caseous, nor over thin and serous, not fluid, but sticking to the nail, if it be dropt thereon new, and milked from one that is well fed and in good pasture.

Milk thus qualified is of all nourishments the best, it is easily concocted and presently turned into bloud; it nourishes sufficiently, and fattens, but it swels the stomach and guts. But for all this, it must be used only by those whose bodies are in health and free from superfluities. In cold stomacks it turns sowre, in cholerick it begets adust smell. But bad Milk is most pernicious, and is so far from breeding good juice, that it breeds very bad humours in the bodies of those that use it.

The bad effects of vitious Milk *Galen* shewes in *l.* 3. *de Alim. fac. c.* 15. by the example of nurses, who in times of famine used wilde herbs, and their children sucking their Milk, became full of ulcers and other diseases. As also by the example of Goats fed with Scammony and Tithymal, whose Milk purges.

Of all the sorts of Milk fit for the diet of healthy people, Cowes Milk is the thickest and fattest; for it hath most of the caseous substance, and least of the serous. So that it loosens the belly lesse, and nourishes more. It is more difficultly concocted, more slowly curdled, slower to descend, and more hard to be distributed, and more liable to breed obstructions. Goats Milk is of a midling substance, as also Ewes Milk, which is thicker then that of Goats, for it hath more of cheese and lesse whey; and therefore loosens lesse, and bindes the more. Asses Milk is thinnest, and most wheyie. But that concerns the cure more then the preservation of health.

Butter

Butter is hot and moist in the first degree, and almost of the same nature as oyl of ripe Olives, as *Avicen* witnesseth. But is more moist, then hot; stale Butter is hotter and thinner; new, almost temperate in the active qualities. It nourishes, loosens, fattens, and is good against the cough. The too much use of it loosens the retention of the stomack, takes away the appetite, and begets a nauseousnesse; and therefore to be avoided by those who are subject to loosnesse, as also by men of hot complexions, who burn it and turn it into choler; it is to be eaten first, for it speedily descends into the paunch and makes way for the other meat; but if it be eaten last, it loosens the stomack, and hinders the orifice from embracing the meat and closing up.

Cream of milk is like butter, and agrees with it in vertues and qualities: they differ in this, that Butter is made by art, and Cream swims up of its own accord.

Cowes milk abounds chiefly with it, by reason it hath much fat; it loosens the stomack, swims above the meat, and throwes down the nourishment afore it be concocted, sends vapours to the head, and begets a thick juice.

Beeing boyl'd it hath a substance like new Cheese, and breeds thick juice, the wheyie part being extracted by the fire, it hurts the stomack lesse then new press'd cheese: it is good against hot defluxions, allayes thirst, provokes sleep; but it is hurtfull to a cold stomack and diseases of the nerves. Being old and hardened, it is of a hard digestion; it breeds thirst, nourishes little, it bindes the belly, and begets wind.

All Cheese hath not the same nature and temper, but according to the variety of the creatures from which it is taken, and according to the age, smell, taste, and other circumstances thereof.

Cheese from Cows, nourishes more, but is hard of concoction, Cheese of Ews milk hath a thicker substance, but is more easily concocted, it nourisheth lesse, but affords a better nourishment then the former. Cheese of Goats milk is worse, and more hardly concocted by reason of its acrimony.

Old Cheese is hot because of the acrimony, and sometimes putrefaction which it contracts, through the mixture of salt or runnet, when it is made; and by how much the older it is, by so much the sharper it is, and by consequence hotter and dryer; and as *Avicen* saith, hot in the third degree. Hence by reason of its heat and drinesse, it is of hard digestion, and apt to increase the stone, especially if it be too much salted. It is therefore to be avoided, because as *Avicen* saith, together with *Galen* and *Dioscorides*, it is of a difficult concoction and distribution, bindes the belly, and turns into klack choler; but taken in a little quantity after other meats, it helps concoction, though of it self it be of hard digestion.

While it is New, and soft, it is cold and moist, more windy then hard and dry, because of the moisture, but lesse provoking thirst, and lesse binding; it nourishes well and breeds fat, usefull to the stomack, it is easily distributed into the members, being not of such a hard and evil juice, as old Cheese; yet it is of hard digestion, and causes the stone and other distempers.

That which stinks is worst of all, but that which smels well, is wholsomer. Being sharp and salt, it is hot and dry, causes thirst, and evil juice: that which is sowre is of an evil juice, and cold. That which is sweet and fat, is moderately hot, nourishes more, and is of a better juice.

Fat Cheese and full of butter, is better; that which is lean and without butter, is far worse.

CHAP. XX.

Of nourishment from Birds.

THE flesh of Hens in the active qualities is temperate, in the passive moist, of easie digestion, of good juice, and full of nourishment. *Avicen* writes that it increases the wit and understanding, that it clears the voice, and increases seed; all which things are to be understood of those which are of a middle age, moderately fat; for old Hens are condemn'd, as being hard, nervous, lean, and only fit for hatching.

The flesh of Capons and Cock-pullets, is of the same nature and temper with the flesh of Hens that are young, but with this difference, that those pullets have a thinner substance and nourish lesse, and therefore not fit for labouring bodies.

Young Pigeons are reckoned among the most laudable nourishments, they are of an easie digestion, they breed a juice neither thick nor thin, but midling between both.

Turkeys do not give place to Capons nor Hens if they be young and kill'd two or three days before: for if they be old and new kill'd, they have a hard flesh, and more difficult to digest.

The flesh of Geese is hot and moist, hard of digestion, and full of Excrements. And the older they are, so much the harder, tougher, and unfit for nourishment; obstructive they are, and full of evil juice; but those which are of a middle age and well fatted, are better and tenderer; and in many places reckoned for dainties.

Goslins are unwholsome, containing a slimy and excrementitious nourishment.

Of Birds, Partridges are the chiefest, without which the most sumptuous banquets lose their grace and splendour, their flesh is very toothsome, especially being young, and hung up a little after they are kill'd; they increase good bloud, and that in great plenty, and void of excrements; they increase the memory, and multiply seed, exciting lust. And *Cardanus* affirms that the long use of Partridge cures the Pox, the whole masse of bloud and all the body being renewed by them.

Ring-doves, Turtles, Quailes, Thrushes, Blackbirds, Larks, and other mountain birds obtain the next place to Partridges; they breed excellent juice, nourish well, and have very little excrement.

About the Quaile there is some controversie. For *Galen*, *Pliny*, and *Avicen* relate that those who eat Quails often, are subject to cramps, the cause of which by *Pliny* is said to be because that Quailes do feed much upon black Hellebore. *Avicen* addeth, that they have an occult quality that causes the cramp. Others deny this opinion, the chief of which party is *Averroes*, affirming that the flesh of Quailes is most wholsome, and that it generates good bloud; which is most consentaneous to reason: for there are few countreys in which Hellebore is so plentifull; those Birds feeding most upon the best herbs and corn. Neither doth experience teach us that those who eat Quailes, are troubled with the Epilepsie. Add to this, that by the benefit of God they were granted to the Israelites in the desert, which would not have been, but that they afforded singular good nourishment. And although there did arise from thence heavie diseases among the Israelites, yet that proceeded from the abuse of that meat which they gourmandized, so

that they could not sufficiently concoct it: whence came crudities and putrefaction.

But this is a general rule concerning the flesh both of Beasts and Birds, that they differ much according to their age, place of breeding and manner of dressing. When as the flesh of those that are young and growing, is much better then of those that are old and declining; but as the flesh of those that are in the prime of their age obtains a midling nature: so the flesh of those that are new born, is mucous, moist and full of excrement.

Rosted and fry'd in a frying pan, it is dryer: boyl'd, it is moyster; but those creatures that live in moist and mooriſh places, have a more moist and excrementitious flesh, and harder of digestion; those that feed upon mountains, have dryer flesh, more easily concocted, and void of excrement.

There are Egges which come from severall creatures; but Hens Eggs are most in use: they consist of a twofold substance, of a different temper; the yolk, and the white; the yolk is moderately hot and moist, it affords excellent nourishment, it sympathizes with the bloud, and is therefore soonest turned thereinto. And therefore vulgarly it is said to generate as much bloud as it weighs, so void of excrement it is. The white is cold and moderately dry, as *Galen* witnesses.

Those are the best Eggs, which are white, long and new; for Eggs of one daies laying, are called golden, of two, silver; and of three, iron.

Rear Eggs, that being moderately boyled in water, tremble in the hand, are fittest of all for the nourishment of the body, as *Galen* testifies, and nouriſh more then Eggs more boyled.

Eggs boyled in the shell so long till they may be supt off, nouriſh lesse then those that tremble by reason of the thinnesse of the substance: they passe easily away and and loosen the belly gently.

Eaten fasting, they clear the voice, facilitate the birth, allay coughing, and resist the poyson of the pestilence. Both those that may be supt, and those that tremble, for sickly people, old folks, infants, and such as are troubled with the Ptisick, Bleeding, or any other notable evacuation, are very profitable.

Eggs harden'd with long boyling, are of hard concoction, they beget a thick juice, and binde the belly. Rosted in the cinders they harden more, and are of a worse and thicker nourishment: they endure a greater force of the fire, and lose more of their natural moisture, then hardned by boyling.

Fry'd Eggs are worst of all, they are of a hard concoction, they passe slowly, they beget a thick and ill juice, and corrupt the humours also that are mixed with them; which is to be understood of Eggs fry'd to an extraordinary hardnesse.

There is a kinde of Cheese-cake made of Eggs drest in a pan, with a good quantity of butter, which is very wholsome: which may be also said of Eggs beaten together in a platter, to a moderate thickneſſe with butter-milk, and sugar added to them afterwards, for they are easily concocted, and nouriſh very much.

CHAP. XXI.

Of Fish.

FIsh in general are of a cold and moist temper, though others more, others lesse; and as to their substance they vary much, some being of an easie, some of a hard digestion, and very excrementitious.

Fish that live in filthy, muddy, stinking waters, are most unwholsome. For those are very much condemned that breed in puddles, lakes, small streams, and muddy; or in rivers defiled with the excrements of Cities.

Those Fish are best approved of, that breed in gravelly waters, which are very clear, for they are more easily concocted, and they increase bloud which is neither too thick, nor too thin.

Fish that are scaly, and have a substance that crumbles easily, are more wholsome, then those which have no scales. For they have a dryer substance, but the others a more slimy, moist, and glutinous matter.

Fish that live in the deep sea are better then those which are tossed up and down by the waves in the shallow places, and rendred more dry by the continual beating of the sea: those that live near the shore are most impure, because the sea is there lesse agitated, and consequently more muddy and lesse wholsome.

From these general rules it will be very easie to distinguish the nature, wholsomenesse or unwholsomenesse of the several sorts of Fish; that it will be needlesse to make any further discourse thereof.

CHAP. XXII.

Of Sauces.

CInnamon is hot in the third degree, dry in the second. It provokes urine, and the flowres, quickens the sight, attenuates, cuts, digests, and helps concoction, dissipates winde, corroborates the parts, and bindes gently.

Cloves are hot and dry in the third degree: they are appropriated to the brain, heart, stomack, and womb. They strengthen the brain, consume the matter of distillations, quicken the understanding, strengthen the memory, correct the cold and moist distemper of the brain, and are profitable against diseases which do thence proceed. They comfort the vitall spirits, expell the cramp, forward the concoction of the stomack, take away nauseousnesse, and dispell wind; they recreate the womb, and asswage the distempers thereof; they quicken the sight, and excite venery.

Ginger is hot in the third degree, and moist in the first, and is presently rotten by reason of its moisture. It strengthens the stomack, dispels winde, and cures the want of appetite caused by cold humours.

Pepper is hot and dry in the third degree: the long Pepper is lesse dry, so that it is sooner rotten. The white is sharper and hotter then the black; it helps the concoction of the stomack, moves the appetite, dispels wind, is good against the cough and affections of the breast; it facilitates the birth, and dispels dimnesse from the sight.

Nutmeg is hot and dry in the second degree; and therefore strengthens the stomack; it dispels wind, sweetens the breath, suppresses loosnesse, helps concoction, and is good in cold affections of the brain, nerves, and womb.

Saffron is hot in the second degree and dry in the first, it bindes gently, helps concoction, moves urine, excites venery, hath a cordial vertue, resists poyson and putrefaction, it wonderfully helps those that are troubled with Coughs, Asthma's Phthisick, and Pleurisies; it brings an excellent colour into the face, opening the obstructions of the Liver, and helping concoction, if it be moderately used: it brings down the birth, flowres, and secundines. But the too much use and smelling thereof hurts the head, for it fils it; it troubles the minde, and attenuates the spirits and disperseth them, so that being taken in too great a quantity it hastens death.

We knew a woman, that to bring down her flowres, used such an abundance of Saffron, which caus'd her flowres to come down in so great a quantity, as that she dyed in three daies.

Dodoneus saith, it is so extraordinary a medicine in affections of the Lungs, that it hath brought back life to those who have been at the point of death by reason of the Phthisick, being taken to the quantity of a scruple or half a scruple in sweet Wine. Being taken also in the same manner, he saith, it takes away the heavy pains that precede a Feaver.

Mustard corrects the cold and moist distemper of the stomack, cleanses it from flegm, helps concoction, and revives the appetite.

Salt is hot in the second degree, dry in the third, it cleanses, digests, bindes, thickens, drives away putrefaction, excites the appetite, helps the concoction of the stomack, loosens the belly, and makes most meats savoury. But us'd in too great a quantity, it begets the Stone, the Itch, Scabs, and Scurfe; it increases the Scurvy, as appears by those who feed much on salt fish and flesh; it weakens the sight, diminisheth the seed, and is hurtfull to cholerick and melancholy people.

Meats much seasoned with Salt being often used, have the same ill qualities, and besides that, they are harder and more difficult to digest, because their natural moisture is consumed, which causeth their substance to grow thick and hard, and the lesse capable of concoction.

New and sweet Oyle pressed out of ripe Olives, is moderately hot and moist, it mollifies, loosens, asswages, tempers all acrimony, kills worms, and resists poyson.

Sugar is hot and dry in the first degree; it expels putrefaction, cleanses, and therefore helps the stomack, because it carries away the flegm thereof: but if the stomack be full of choler it is hurtful, by reason that it soon turns into choler. It is good for the reins and bladder by cleansing them from gravel and slimy flegm, it cleanses the breast, loosens the belly, nourishes very much; but the too often use thereof begets obstructions, as all sweet things, which the Liver speedily drawes to it self, and with it the other meats before they are concocted; it hurts the teeth, for it blacks and rots them; and therefore after eating thereof, the mouth is to be washed.

CHAP. XXIII.

Of Hony.

HOny is hot and dry in the second degree: yet there is some difference in respect of the places where the Bees gather it. That is hotter and dryer which is made in hotter places, stored with Thyme, Lavender, Rosemary, and other Aromatical herbs: but in cold Countreys where these herbs are not, it is lesse hot. In general that which is yellow is hotter then the white. And our senses do tell us, that some is more sweet then others; some sharper, and consequently of greater force and vertues. It cleanses, loosens, provokes urine, heals the cough, and resists rottennesse. So that horary fruits if they be preserved in Hony, though there be nothing that rots sooner, keeps unputrefied for many years. It is good for old folks, and people of moist tempers, and in the winter time, hurtful to young cholerick stomachs, and in the summer. It is good against the Stone, Asthma's, and other affections of the Lungs. It nourishes little, it refreshes the strength of body and minde, recreates the senses, and makes them more acute.

We thought good to explain the nature and vertues of Hony in a particular Chapter, both because of the excellency thereof, as also because it is not so much to be reckoned among sauces, as meats themselves. And lastly, because *Galen* writes, that the nature of Hony is different from that of Plants and Animals.

The excellency thereof is confirmed by many authorities and examples. For *Plinie* calleth Hony divine Nectar. And again, in imitation of *Aristeus*, he saith that Hony is none of the meanest advantages to humane life. But that it was in very much use among the Ancients, and availed much to the preservation of health, there are many Histories to confirm. *Pythagoras* (so saith *Laertius*) liv'd frugally contented many times with nothing but Hony, and lived to the 90th year; and he affirmed that those might live without diseases, who used much Hony. *Athenæus* relates that the diet of the *Pythagoreans* was bread and Hony. *Gal. 5. de san. tuend. c. 4.* relates the story of *Antiochus* a Physitian, and *Telephus* a Grammarian, of which the first was wont to eat every day at the third hour bread and Hony, seldome raw, oftenest boyl'd, and with other diet set down there, he exceeded fourscore years. The last for his breakfast eat raw Hony with Rice boyled in water, and lived above 100. years. *Plin. l. 12. c. 24.* relates of *Pollion*, who exceeded 100 years, that when the Emperor asked him how he did to prolong his daies to that age, answered, by using Oyl without, and Hony within; which he learnt from *Democritus*, who being asked how a man might live in health, answered, If he oyl his outside, and use Hony inwardly.

The same *Democritus* being in his old age weary of his life, endevoured to end his daies by abstaining from nourishment. But at the feast of *Ceres*, the women importuning him not to sadden the house at such a time of general mirth, he caused a vessell of Hony to be brought him, and meerly by the vapour thereof sustained his life for some daies. *Atheneus* writes, that the *Cyrnians* who inhabited *Corsica*, were therefore long liv'd because they fed much upon Hony, of which there was great plenty in that place. Lastly, the excellency of Hony is confirmed by the testimony of sacred Scripture, where speaking of *John* the Baptist, it saith, *He shall eat Hony and Butter, that he may know to choose the good and reject the evil.* For good humours being generated by Hony, and out of good humours good spirits, which

are

are the causes of all the actions of the body and brain, it follows that the use thereof increases the wit and understanding; the operation whereof consists in perfect knowing.

The nature of Honey is secret enough, it being uncertain under what head and order of things to reduce it: *Galen* having also written that the nature thereof is different from all plants and animals: and Authors differ much about this matter, some saying that it proceeds simply and purely from the air, and that it is gathered by the Bees for food, and carried into their hives; other affirming that it is collected by the Bees from the juice of plants. The first opinion is held by *Aristotle*, *Galen*, and divers others: and experience tels us that in Countreys abounding with Hony in the spring time and in the morning, the leaves are to be seen all covered with a dew falling down from the air. Therefore Hony is a certain airy and fat dew proceeding from certain fat vapours ascending from the earth, and condens'd in the air, which is gathered by the Bees from off the flowers and leaves of plants, and reserved in their hives for food. Yet there remains a doubt, whether any Hony can be generated from the juice of flowers, when as it is without doubt that wax is made by the Bees out of the juice of herbs: which having so great a likeness with Hony, it is not unlikely that Hony is generated out of the same juices, when there is no dew: this is most certain, that Hony hath a resemblance with the vertues of those plants out of which it is collected. So that which is gathered from Thyme, smels of Thyme; that which is made in *Sardinia* where there is plenty of Wormwood, is bitter: in *Pontus*, it is poyson, because of the abundance of Rhododendron which growes there. But the vertues of the plants may be easily communicated to the Hony, while it lies and sticks to them.

That Hony is the best which is of a yellow colour, sweet savour, having neither the taste nor smell of the flowers, yet pleasant to the palat. Yet the white Hony, such as is that of Narbon *and* Attica, *is more excellent for nourishment, by reason that it is the more temperate; yet the yellow is to be preferred in medicines. But all Hony is the nourishment of medicines, because it doth not only perfectly nourish, as being most perfect and incorruptible and free from excrements, but also because it warms the body, cleanses the stomack and guts from the flegm that sticks to them, and loosens the belly, and affords not a few other benefits to the body.*

Hony gathered in the Spring, is better then that gathered in Autumn, as being taken from new wax, and generated from new plants. Summer Hony is worse then that which is gathered in the Spring, because it is more sharp and hot. The winter Hony is worst of all, for it evaporates from the wax and growes thick.

Chap. XXIV.

Of Drink, and the matter fit for Drink.

Pure water is cold and moist, that is best which is clear, limpid, without any muddiness, or matter swimming in it, without any taste or smell, thin and smooth, which runs speedily through the Hypochondrium, and is presently distributed through the body; soon hot and soon cold. To these marks of good water, may be added two more, viz. *Take two linnen rags of the same weight, and moisten them in two several sorts of water, and then dry them in the sun, if one be dry'd before the other,*

other, that water is the best: when they are both dry weigh them again, and if one be lighter then the other, that water is the best.

As to the places whence water is taken; fountain water is to be preferred, so it have the above named qualities; for if it want them, it is to be rejected. Hip. li. de loc. Aer. & aq. *sets down other properties, that it should flow toward the Eastern Sun, especially in the summer. That it should glide through clean ground, neither muddy nor clayie, but through sand and gravel; and which is hot in the winter and cold in the summer. For that shews that it flowes from the deep bowels of the earth, which by Antiperistasis, are hot in the winter and cold in the summer. Those that rise against the Northern or Southern Sun are worse, as being raw, and heavy, and passing slowly through the body.*

Rain water next to fountain water is counted best, and by some preferred before it, if it have its due properties, which are these; that it be brought in earthen pipes into a covered cistern; if it passe through a gravelly place; if it fall in the spring time in gentle showers and not in storms; if it be kept in a very clean cistern, and that it wash down along with it no filth from the tiles.

We have given the first place to fountain water, according to the opinion of *Hip. Galen*, and *Avicen.* But there are many reasons, why rain-water is to be preferred before it. And first *Celsus l. 2. c. 18. The lightest Water is Rain, next Fountain, next River, next Well, next Snow, next Icie-water, the more heavie is Lake-water, the heaviest of all is Puddle-water. Aetius Tetrabib. l. 1. serm. 3. c. 165.* Rain-water, saith he, is the lightest of all and is most quickly chang'd. *Hip. l. de Aer. loc. & aq.* praises rain-water, as being light, sweet, clear and thin; for that it being the lightest and thinnest part is drawn up by the Sun.

Vitruv. l. 8. c. 9. The Water, saith he, *which is collected from showres, hath more wholsome vertues, because it is drawn up from the most clear and subtle fountains, and then strein'd by the motion of the air, it descends melting in showres upon the earth. Averroes* in *Cant.* saith, that rain-water is the best; and more excellent then river or fountain-water. These authorities are backt also by experience, for rain-water being weigh'd, proves lightest, cools and heats quickly, oppresses not the *Hypochondrium*, but passes suddenly through the body, having neither in colour, smell, nor taste any manifest quality. The thinness of it appears in this, that pulse are sooner boyled in it then in fountain-water. Besides all sorts of plants do shew the wholsomness of rain-water; which are better nourished with rain then with any artificial watring. Nay as *Pliny* affirms, *reeds that grow in puddles, will not come to maturity nor increase without rain.* And *Aristotle 8. l. de. hist. Animal.* that the fish themselves which live continually in the water, do not live nor engender well in dry years. You will say that the humours dissolved into vapours and carried up by their levity to the stars, do borrow from them a certain vivifick vertue; which it afterwards imparts to the things below.

It may be objected that snow and hail are of the same matter with rain, yet the water which they melt into is rejected by all. *Paulus* answers, that snow and icie water is of all the most pernicious, because all the thin parts are prest out by the congelation.

Secondly, It may be objected out of *Galen*, that rain-water suddenly putrefies, and hath an astringent quality. But *Paulus* answers in these words, Let no man imagine putrefying water to be the worst, when the proclivity which it hath to alteration proceeds from its vertue, not from its vice. And *Galen* himself, 1 *de fac. Alim.* saith, that those things which are easily concocted are easily corrupted; and on the contrary those things which are hard of digestion are slow to corrupt. As to the

binding

binding quality, there is an answer given by *Avicen*, who saith that rain-water therefore seems binding, because it is presently distributed and passeth presently to the urinary passages. Hence it happens that the excrements not being well moisten'd, through their drineſſe beget astriction: for of it self rain-water cannot binde, when as it is so thin and airy; for those things that binde are of a terrene substance.

By this which hath been said it appears that rain-water seems to be preferred.

Yet with the consent of most approved Authors, we do prefer the fountain, because if it have the conditions before mentioned, it remains in the same state, and is not altered by external causes. On the contrary rain-water requires so many properties which depend on outward things, that it is difficult for them all to concur; so that if any one of them be wanting, it necessarily loseth of its perfection; that is, if it fall from tiles not well washed, or be kept in foul cisterns, or be not fill'd up in a convenient time.

Now there is a doubt, when is the fittest time to receive this rain water, since there are not a few that do affirm from *Hipp.* that water preserved in the summer time, and descending with thunder, is to be preferred by reason that it is the most thin and light. But notwithstanding such water by reason of its thinness and lightness, hath a certain prerogative, yet because in the summer time various exhalations do arise out of the earth, which retain something of the nature of minerals, and are mingled with the vapours, that cause rain, therefore those waters are not so commendable: which is hence manifest, because they do suddenly putrefie, and worms are often bred therein. For lightning and thunder arise from sulphurous exhalations which do many times infect the air with their smell. Besides in the summer time the waters of lakes, puddles, and ditches, contract a putrefaction, and the vapours that rise from them, are part of the matter of rain, which is therefore vitious and easily corruptible. For these reasons we prefer that water which is preserved in the spring when the lakes, pools, and ditches are full of water, and that pure through the plenty of rain which fell in the winter. Besides it would be impossible to preserve for the whole year water enough in the summer, when there fals but little rain, and that not lasting many hours. And experience teaches us this, at *Monspeliers* where they use much rain-water, and preserve it in the spring and winter, that that is best which hath all the properties above mentioned, especially for the boyling of pulse, whereby they grow extremely soft, when as in other waters they retain a hardneſſe, though for a longer time boyl'd.

Well-water is thick and heavy, so that it sticks in the bowels and begets obstructions; yet there's a great difference between well-waters, so that some do contend in goodneſſe with the fountain, that is, if they have the following properties; if they have fountains of good water near them, for you may then imagine that they borrow their waters thence. 2. *If they be drawn out of deep wells; for such are hot in the winter, and cold in the summer, and leſſe liable to external injuries.* 3. *If the sun do freely come at them; For the light of the sun doth purifie them, and communicates to them a certain vital spirit.* 4. *If they be often moved and exhausted, for by that they are made thin and putrefie leſſe.* 5. *If they be well and often made clean.* 6. *If they are remote from privies and dunghils; whence they may derive any evil quality. Those which have contrary qualities, are to be accounted noxious. For those which are not deep unleſſe they arrive from some fountain, are liable to all external injuries, they freez in winter, are hot in summer, like standing pools. If they be shut up under roofs, they are depriv'd of the light of the sun, and are defiled with a slimy muck. If they be unmov'd they grow thick, remain raw, contract putrefaction, offend*

the

the stomack, pass difficultly, and hurt the bowels. If they are near dunghils and privies, they become tainted with an ill smell and savour.

River-waters contend with well waters for goodnesse, and are sometimes to be preferred before them, sometimes not so well to be esteemed of. But there is great variety in river waters, for those are best which are sweet and clear, and drawn out of swift and rapid streams, and which flow in good grounds and in a temperate region; but those are bad which are drawn out of still, muddy and troubled rivers, or out of great and running streams which receive the filth of sinks, kitchings, and privies.

Hence rivers that run by the walls of great cities, have much filthinesse in them, and generate many diseases, unlesse this caution be used, that the places destin'd for the drawing of water, be there only where no filth or excrement is cast in. For otherwise, if the water which runs by a City be us'd, it is very unwholsome. This caution also is to be observed in the use of river-water, that it be kept in cisterns for some daies, for it settles and all the terrestrial and muddy parts sink down to the bottom.

The water of standing pools and lakes is the worst of all, for by reason they have but little motion, they soon putrefie, they are thick, raw, and sometimes pestilent and malignant.

Snow water also and ice-water are very bad, for while they are congeal'd by the cold, the more thin parts exhale forth, besides they have an extraordinary coldnesse that hurts the stomack: which is to be also understood of snow and ice-water preposterously used; for though young and strong men do not presently perceive the mischief, as they grow old they finde it, and it brings them into various diseases of the joynts, bowels and nervous parts.

With us it is in this age now in fashion to drink snow and ice-water to cool themselves, and not a few refrigerate their wine therewith. Which custome is much disputed about, not only among the Physitians, but also among the vulgar; some praising, other condemning it. Since therefore we have so fit an occasion to speak our opinion, we shall accordingly set down our judgement therein. First in the Theorem, we have already condemn'd the drinking of water cold with snow, but with this addition, if it be preposterously used, which must be accurately explained: for first of all that sort of drink is so cold being generally considered, that it seems to be absolutely condemned, according to the opinion of *Hipp. Aph.* 51. *sect.* 1. to empty or fill much, or suddenly to heat or cool, or any other way to disturb the body, is dangerous: for every excesse is an enemy to nature; but what is done by degrees is safe. Therefore when the body in the heat of summer is extraordinarily hot, to cool it suddenly with that icy drink, seems very dangerous: the effect of this danger may be confirm'd by the many examples of those who by using this drink, have fell into terrible diseases, not a few of which we have seen and cured. On the other side they are infinite who extoll this drink to the skies, confirming their opinion both by reason and experience.

The first reason is taken hence, that our natural heat uses violently to be opposed and extinguished, by two great enemies, the cold extinguishing, and the heat dissipating; which makes our bodies in the vehement heat of summer to be languid and faint, the hot air as it were inflaming the parts of our body, and dissolving their heat; which dissolution cannot be hindred but by the taking and applying of refrigerating things. And therefore as in all ages, baths, and swimming in cold water have been conveniently us'd to temper this heat of the body, so also cold drink inwardly taken, produceth the same effects.

Secondly, drink is necessary to restore the natural moisture, which is continually consumed and dissipated by the natural heat; but drink, as being moist, per-

forms that work: yet if heat were joyned with this moisture, it would forward the resolution of the moisture; and therefore generally men desire cold drink in the very winter time, to temper that internal heat, and stop the resolution. But it is much more necessary in the summer time, when there is a great dissipation of the moisture through the intense heat of the bowels.

Lastly, the coldest drink us'd in the summer, is best, as appears by the testimony of many men who affirm, that they have been freed from many diseases by drinking water cold with ice or snow. Also in *Spain* and *Italy*, from the time that this drink came in use, malign and pestilent Feavers are lesse common in the summer then formerly.

But our opinion is this. First there is no doubt but that drink moderately cold is most convenient for all men. And therefore it hath been an old custome for men to preserve their Wine in cellars under ground, for their use in summer, and to draw water out of the deepest wells if they be good, and to mix them in their Wine; if not good, to cool their Wine in the wells themselves. And we can teach them to make their Wine more cold that way, if they put down the pots of Wine into the well so low as the nose thereof do not touch the water, for the air which is near the water is more cold, and pierces the bottles sooner then the water it self. But for drink cool'd with ice and snow, which hath a more intense and freezing coldnesse, there is more difficulty in that. Therefore as to that the above mentioned Aphorism of *Hipp.* is of great force, *to cool or heat much and suddenly, is dangerous.* To the resolving of which doubt, we say that in a countrey and season very hot, it may be us'd by young men of a strong nature, hot temper, and free from ill humours. For then the bowels require such things as are strong and forcible, especially where they have been us'd to such drink, with much exercise. But to others who are aged, or very young, and have weak entrails, of a flegmatick or melancholy temper, and full of excrementitious humours, living an idle life, and accustoming themselves to little exercise, and much venery, it is most dangerous. Seeing therefore there are so many circumstances required to make this drink usefull, and those found in so few men, it is better to abstain from it, and to use drink cool'd after the same manner as I have related, which is most convenient for the preservation of health.

But because the custom of cooling Wine with ice is now so much in fashion, that many are forced to drink it at banquets wanting other drink, whence I have seen many very much to suffer; We have thought it worth the while to invent a way to make it lesse dangerous. And therefore we give this precept, that before they drink they eat good store of meat, and those hot, salted and peppered, by which the stomack being heated, may be able the better to resist the vehement coldnesse of the drink. Next, let him drink but little, and that but little mingled. And to satisfie thirst, recompense the smalnesse of the quantity by often drinking; for so the harm of that cold drink may be pretty well avoided. The same caution they may observe who are of a hotter temper, who in the dog daies are very fiery, and subject to burning Feavers, and therefore drink this sort of drink, hoping thereby great benefit, that they do not use it for some few daies, but in a little quantity and often drinking.

Wine generally considered, in the active qualities is hot, in the passive dry. It cherishes our heat, strengthens the heart, increases the spirits, refreshes the strength, purges choler by urine, and forwards the expulsion of all the excrements.

By Wine generally considered, we mean, that which principally deserves to be called Wine, and which growes in hot or temperate Countreys, and is pressed out

of

of ripe grapes, and rightly made in the tub: yet there is so much difference, that some is hot and dry in the third degree, some in the second, and some in the fourth degree. But that which is pressed from unripe grapes, which is sowre and sharp, deserves not the name of Wine.

But concerning the passive qualities of Wine, great difficulty arises, by reason that both authorities and reasons differ therein.

For first, *Aristot.* 17. *Prob. sect.* 3. saith expresly that Wine is hot and moist.

Secondly, *Gal.* 3. *de cauſ. pulſ. c. ult.* affirms that Wine speedily nourishes by reason of its moisture, and that so much the more because it is hot.

Thirdly, *Gal.* 1. *de san tuen. c.* 11. forbids Wine to children for many causes, but especially because it moistens them too much, and fils them with vapours: and in the same place he writes that Wine moistens what ever is immoderately and extraordinarily dry.

Fourthly, *Gal.* 5. *de san. tuen. c.* 5. saith that Wine is most fit for old men, not only because of the weak heat which then they have, but because of its moisture.

Fifthly, *Plato* 2. *de leg.* saith that *Dionysius* gave Wine to men as a remedy against the hardnesse of old age, that they might seem to wax young again; their bodies being softned in Wine as iron in fire.

Sixthly, *Hipp. of diet.* That black sweet Wines, and thin sweet Wines do moisten.

Seventhly, The juice of ripe grapes of which Wine is made is hot and moist. *Hipp.* 2. *de diæta.*

Eighthly, Wine is most grateful to humane nature which is hot and moist.

Ninthly, Wine is good for melancholy people, who require moistening: whence the proverb, As long as they are moistened, so long they are cured.

On the contrary, that Wine is dry, seems prov'd by the following reasons and authorities.

First, *Gal.* 8. *simpl. de vin.* That heat and drinesse are equally proportioned in it.

Secondly, *Paulus Ægineta l.* 7. *c.* 3. confirms this opinion of *Galen.*

Thirdly, *Aetius tetrab. sec. c. de vin.* saith old Wine is hot in the third degree.

Fourthly, *l.* 2. *Synopſ. c.* 15. he saith, Wine is dry in the second degree. And *c.* 16. in the third degree, if it be very old.

Fifthly, Wine contains much spirit, being of a fiery nature and easily inflam'd.

Sixthly, It is good for flegmatick, and being immoderately drunk, it provokes thirst, and parches the bowels, whence a red colour and pimples in the face of drunkards.

Seventhly, It is most useful for the cure of ulcers, as *Gal.* teaches, 4. *meth. c.* 5. but ulcers are cured by cleansing and drying.

For the decision of this controversie there is a double distinction to be observed, the one as to moisture, the other as to the Wine.

The moisture is twofold, actual, and potential; and both these natural or artificial.

Wine is either unripe, sowre and imperfect, or ripe and perfectly concocted. Then secondly, it is either new or old, and both these either strong or small.

These things premised, we say that Wine is actually moist, when as every fluid substance is actually moist. Potentially it is dry if it be ripe, generous, and not too new, as we have set down in the Theoreme.

But that which is crude and acid, very new, as also sweet, is more predominantly moist. For being raw, it abounds with a flegmatick watry moisture, rather natural then accidental: being new, it abounds with much moisture, that is consum'd by fermentation in the tub.

Having thus premised these distinctions, we shall let alone the authorities and

reasons brought for the drineſſe thereof, and only anſwer to thoſe that are brought for the moiſture thereof.

To the firſt we ſay, That *Ariſtotle* cals Wine actually moiſt, not potentially.

To the ſecond we anſwer, That *Galen* conſiders Wine as it nouriſhes, in which reſpect it is moiſt actually, and by reaſon of that actuall humidity, it is eaſily diſtributed and changed; whence we ſay that it ſpeedily nouriſhes.

To the third we reply, That *Galen* forbids children to drink Wine, not that it doth potentially, but actually moiſten them; for it heats and fils the head with vapours, and ſo cauſes many diſeaſes, but chiefly convulſions.

To the fourth we anſwer, That *Galen* commends Wine to old men, not that it moiſtens, but becauſe it refreſhes their weak heat, and evacuates by urine the ſerous humours, wherewith they abound.

To the fifth we anſwer, That *Plato* when he ſaith that Wine is a remedy againſt old age, underſtands not the hardneſſe of the body, but the minde; for he ſaith, that they ought to drink Wine to make them young again, and to comfort and cheer their ſpirits; for the affection of the minde, like iron moiſten'd in the fire, being once ſoftned growes more flexible.

To the ſixth we ſay, That the authority of *Hipp.* is not contrary to our opinion, who in the deciſion of the controverſie, have affirmed that ſowre-ſweet Wine is predominantly moiſt.

To the ſeventh we affirm that *Hipp.* ſpeaks of new Wine, which he cals the juice of ripe Grapes; and that we confeſſe is predominantly moiſt.

To the eighth we make anſwer, That Wine is pleaſing to our nature, becauſe it nouriſhes ſpeedily, and recreates the ſpirits, which effects are not hindred by the drying quality, which is very moderate, and not much differing from humane nature.

To the ninth we anſwer, That it is good for melancholy perſons, not as it moiſtens, but as it recreates the ſpirits, comforts the heart, and excites gladneſſe.

But there are ſeverall differences of Wine, that are taken from the nature, ſavour, ſmell, colour, and age; which differ alſo much in their faculties and vertues.

As to the proper nature of Wines; ſome Wine is call'd *Oligoforon*, becauſe it indures little mixture of water, other Wines are ſtronger, and endure a greater mixture, and by how much the ſtronger, ſo much the hotter and dryer it is.

As to the taſte, ſweet Wines nouriſh well, and are covetouſly ſuckt in by the bowels. Yet they are thicker and beget obſtructions, ſwell the Hypochondriums, increaſing wind through their thickneſs, and being eaſily turned into choler. They are good for the lungs, neither are they over hot, neither do they afflict the head, or the nerves: which are related by *Hip.* 2. *de rat. vict.* in acute diſeaſes, text. 2.

Auſtere and ſharp Wines are of a weak colour, they ſtay long in the belly, neither do they eaſily pierce the veins, or fall down through the urinary paſſages; they are bad in affection of the Lungs: they are good in fluxes of the belly, as having a binding quality.

As to the ſmell, odoriferous and fragrant Wines are moſt commended, they reſtore the ſtrength, refreſh the ſpirits, are good for old men, only they fill the head and the nerves, and therefore they are bad for thoſe that are troubled with Catarrhs and other affections of the head.

From the colour, a certain judgement cannot be made of the vertues, for ſome white Wines are leſſe watery and ſtrong, others more watery and ſmal; generally the white Wines heat more then the brown and yellow: among the brown Wines the moſt

most generous are Rhenish, Cretan, and Muscatell; Of the red some are more, some lesse strong. But for the most part, those that have a deep red, and come neareſt to a blackneſſe, so much the lesse generous they are; and by how much the thicker they are, by so much they obstruct the more. But thin Wines open the passages, provoke sweat and urine, though they nourish lesse then the thick.

As to the age, new Wines, which as yet keep the taste of the muste, are more watery and weaker then is convenient for Wine; they are excrementitious and of a hard concoction: they do not sufficiently forward the distribution of the nourishment, but keep it long in the belly, and swell the Hypochondriums, they cause heavie dreams, obstruct the bowels, and beget the stone, especially those which are sweet, thick, troubled, and not well cleansed, still retaining the nature of the Muste.

Old Wines which were at first strong, are more sharp and heady, and they heat more then ordinary: they hurt the head and nerves, eaſily intoxicate, and attenuate the body by daily use, and they are hurtful to hot tempers, unlesse they be well mixed ere they be drank. Yet in some cold Regions, Wines that are austere and sharp are better and more wholsome after the second or third year, and by a longer concoction they lose their austerity.

Wines of a middle age, are most convenient for the diet of sound and unhealthy persons; especially if they be well setled and purged; for the heat of the Wine puts it self out in longer time, being lesse potent in new, more in middle age, and most of all in old Wines.

But although that there are various sorts of Wine, which are more convenient for various tempers and natures; yet generally the properties of the best Wine and most convenient for all sorts of men, is that which hath a taste between sweet and sharp, fragrant to the smell, and a little yellowish, neither too thick, nor thin, yet more thin then thick; nor too strong, nor too small, but of a middle age.

APPENDIX.

Many other sorts of drink are us'd in other Countreys, through the scarsity of Wine, as Ale, Cider and Perry, *&c.* which we leave to be examined by those in whose Countreys they grow. There are also many other sorts of drink vulgarly used, and prescribed by Physitians for the cure of diseases, as Ptisans made of Licorice, Ebony, Harts-horn, and several roots, and flowers; and also drinks made of China, Sarsaparilla, Sanders, Box, Rhubarb, Hydromel, and infinite others which we omit, minding only the drinks of persons in health.

CHAP. XXV.

Of the Air.

THE Air which is most wholsome for all men, and fittest for their health, ought in its first qualities to be temperate, pure, clean, thin, open and free, without any ill vapours, moistneſſe or corruption, but winow'd with gentle and soft breathing winds, and for the most part serene.

That is unwholsome which is infected with the vapours of standing pools and lakes, or receives a pestilent air from any vault, or from the jakes of a great City, from slaughter-

slaughter-houses, or leather-dressers yards, or stinking dunghils. That which is near any lake or great river, is full of mists and dampnesse, that which is in a valley begirt with mountains, hath no wind.

The air affects our bodies two waies, either as it incompasses them, or as it insinuates it self into the pores and breathing holes of the body; or as it is drawn by the Lungs. Either way it hath a very great force to affect and alter our bodies: while it communicates all its qualities to the spirits, and by the spirits to the several parts of our bodies: which if it be wholsome for the body, it very much conduces to the preservation of health, but if they be averse from the temper and constitution thereof, it causes many diseases. *Gal.* 1. *de san. tuen.* saith it is most wholesome for every body to draw the best air into the Lungs, that pure spirits may be thereby generated; as it is most pestilent, to live in a bad air. And *Columella* 1. *de re Rust. c.* 3. saith that in buying ground, the wholesomnesse of the air is first to be lookt at. For no sound man ought to lay out his money in a pestilent air, though never so fruitful a soil, when the enjoyment thereof is so hazardous. And therefore a temperate air both for heat and cold is to be sought, almost begirt with a hill, which neither freezes with continual frost in the winter, nor too much evaporates in the summer, nor at the top of a hill subject to all wind and weather.

An exquisitely tempered air, as it were in the middle between hot and cold, moist and dry, fits a contrary constitution best. So it is better for those of a hot temper to live in a moist air, and for those that are of a colder temper, to live in a hot air: those that are dry love a moist, those that are moist love a dry aire.

But when every one cannot finde out an air fit and proper for his constitution, we must supply by art, what nature denies. Thus a hot air is to be cooled, a cold air heated; a moist to be dry'd, a dry air moisten'd.

If for a hot body we want a cold air, which is not such either through the situation of the Countrey or house, it must be brought to a coldnesse by often watering, by the use of cold flowers and plants, by opening windows to the north, that the wind may cool the house. If the air be cold, it must be heated with good fires, all the crannies and inlets of the house must be stopped up to hinder the approach of the cold; or else to live in a stove, as the Germans and all the northern people do. A moist air must be dry'd by suffumigations and fires; a dry air by irrigations of waters must be moisten'd.

A hot air renders the body hot, melts the humours, attenuates and dissolves them, weakens the natural strength, if the heat be immoderate, weakens concoction and makes life short.

Aristotle would have the *Lybians*, and those that inhabit the sun burnt parts of *Lybia*, to be short liv'd because the sun dries up their natural heat, and hastens age through the drynesse of the body.

A cold air cools the body, thickens, bindes and helps concoction, increases plenty of urine, causeth Catarrhs and other diseases of the head, if the cold be intense.

The heat being driven inward by the force of the *ambient* air, is more strong and vigorous. Therefore *Hipp.* saith, *that the belly is hotter in winter*, by which heat concoction is the sooner performed. Cold air increases urine by reason that the pores of the body being shut, the humours that were to expire, being kept within, condense, and are carried to the passages of the urine; and therefore the matter of sweat and urine is the same: so that the sweat flowing out, there is lesse plenty of urine; and the sweat being stopped, there comes forth a greater plenty of urine.

urine. So common experience teaches that in winter time, and when the North wind blows, men do pisse in greater quantity. But in the summer time and when the South winds blow, in a far lesse quantity: but if the cold be intense, it causes catarrhs through the coldnesse of the brain, cold being very hurtfull to the brain, as *Hipp.* teaches in Aph.

A moist air softens the skin, moistens the body, increases excrements, makes it slow and heavy, brings a dulnesse upon the wit.

A dry air dries the body, diminisheth the excrements, makes the body nimble, and the senses quick.

A troublesome cloudy air, fils the body full of ill humours and impure spirits, increases flegm in the flegmatick.

Daily experience teaches that in mooriſh plashy places, or near great rivers, or which have a thick and troubled air through any other cause, putrid and malignant Feavers are most common.

CHAP. XXVI.

Of the seasons of the year.

TO the air are referred the seasons of the year, because of the great variety in them.

Astrologers have divided the year into four equall parts: So that the Spring should begin, the Sun entring into *Aries*, and end when he leaves *Gemini*. The Summer from the beginning of *Cancer* to the end of *Virgo*, Autumn from the beginning of *Libra* to the end of *Sagittarius*, and Winter from the beginning of *Capricorn* to the end of *Pisces*.

But the Physitians and divers people, measure the seasons of the year by the temper of the air, and as the air in some places is naturally more hot, in others colder, there the summer, there the winter is longer. So Hipp. *defines the winter in* Thasus *where he liv'd,* 3. de diæt. *From the setting of the Pleiades or the beginning of* November, *to the vernal Equinoctial; the Spring from the vernal Equinox to the rising of the Pleiades, or the* 7. *day of* May; *the Summer, from the rising of the Pleiades, to the rising of Arcturus, or the middle of* September; *Autumn from the rising of Arcturus to the setting of the Pleiades. By which computation, four moneths and ten daies are allowed the Winter, and as many to the Summer, but two moneths only and some daies to the Spring, and hardly two moneths to Autumn. In the Northern Countreys the cold is most fierce in the Equinox, that the Winter season may be said to last five moneths and more.*

Prosper Alpinus l. 1. *de med. Ægypt. c.* 7. writes that the air is temperate in *Ægypt*, and that the Spring flouriſhes in *January* and *February*, that the Summer begins in *March*, and lasts to the end of *August*; that Autumn is in *September* and *October*; and that the Winter lasts only *November* and *December*: therefore from the temper of the air the times of the year according to the doctrine of the Physitians, are to be defin'd by the following Theorems.

The Spring is the most temperate of all the seasons of the year, and is in the middle between the first qualities, neither being over cold and moist as in the Winter, nor over hot and dry as in the Summer.

Hipp.

Hipp. in his Book of Humane Nature, saith, that the Spring is hot and moist, which is to be understood in comparison of other seasons; for in respect of the Winter, it may be said to be hot, in respect of Summer, cold: but considered in it self without any other relation, it may be said to be temperate. Which *Galen* shows in his first Book of Temperaments, by common experience. For seeing that we do not freeze as in Winter, the Spring keeping its natural constitution, nor are oppressed with heat as in the Summer, nor abound with humors, nor are tormented with drought, nor feel any manifest excesse of these qualities, we must necessarily judge the spring to be temperate. But this moderate temper is not to be found through the whole course of the Spring, for at the beginning it resembles Winter, and at the end it is like Summer.

The Spring is the most wholesome season of the year, according to *Hipp. Aph. 9. sect. 3.*

The Spring approaching, our bodies which were bound in Winter, begin to be loose and rarifi'd; the bloud increases, the spirits revive, and all things seem glad for the dissolution of Winters frost. Neither is it absurd to say that many diseases are bred in Winter; since the Spring naturally brings health, not diseases, and if it finde the body in good estate, so preserves it. But if there be an an abundance of humours collected in the Winter, in the Spring they are melted and stirred, and sometimes putrefie, which causes various sorts of diseases. And the Spring by accident, not of its own proper nature is said to beget diseases.

You will object again, that the Spring is hot and moist according to *Hipp.* but a hot and moist constitution is unwholesome, and most liable to breed diseases that spring from putrefaction. Therefore the Spring cannot be said to be most wholesome.

We answer, that that is in the excesse of heat and moisture, but where the heat exceeds the cold, and the moisture exceeds the drinesse moderately, that temper is most wholesome and most agreeing with humane nature, which inclines to heat and moisture. Besides, life consists in hot and moist, and must be preserved by things of that temper.

The summer is hot and dry, it renders the body hot, dry, faint, thirsty, and weak, it attenuates and burns the humours, it increases choler, which is the cause of the abundance of cholerick Feavers at that time.

Autumn is cold and dry, fruitful of diseases, because of the inequality of its tempers: for in the morning 'tis cold, at noon very hot, and lastly at evening 'tis cold again. The body is condensed at that time, and the humours hindred from flowing, being forc'd to the interiour parts by the coldnesse of the air, whence arise many diseases very dangerous, by reason of the black choler which abounds in the body in Autumn.

The Winter is cold and moist, it strengthens the body and makes it more lively and full of natural heat, and causes long sleeps through the tediousnesse of the nights, it procreates flegm, and makes the body liable to obstructions.

CHAP. XXVII.

Of motion and rest.

MOtion and exercise are a principal means for the preservation of health, above all other things except temperance.

Here the common sentence of *Hipp.* may be fitly repeated, *l. 6. Epid. The way to preserve health is not to glut the stomack with meat, and to be laborious in exercise.* *Galen* in many places chiefly commends exercise, but in one place chiefly where he prefers it before temperance in diet: *in lib. de suc. bon. & vit. c. 2. Unlesse a man exercise sufficiently, he cannot preserve himself from diseases by any temperance in diet; unlesse he do recompense the want of exercise by requisite purgation, or letting of bloud. But if he use a through exercise, though he sometimes exceed in diet, yet he shall continue without diseases.* But *Aristot. Prob. 47. sect. 1.* questioning why it is good to diminish his diet and increase his labour, *Because,* saith he, *the superfluity of humours causeth diseases, which shew themselves chiefly, when either a man exceeds in diet, or is wanting in exercise.*

Motion and exercise excite the natural heat, increase and stir up the spirits, so that the body becomes more strong, lesse liable to external injuries, and fitter to undertake all actions.

Concoction is perfected better by the increase of heat, and the stirring and exagitation of the spirits causeth a more plentifull transpiration, the defect whereof is the cause of almost all diseases.

But there are many sorts of motion and exercise, as walking, running, leaping, riding, gestation, and infinite others: of which, some exercise the body more, some lesse; others the whole body, others but some parts.

Galen commends the play with the little ball chiefly, as that which exercises the whole body; running and walking exercise the thighs particularly; by handling arms and rowing, the arms and superiour parts are exercised; by singing, hollowing, and loud reading, the voice and brest, by riding the stomack.

The most used, and most commodious kinde of exercise, is moderate walking through green and pleasant places under a clear and serene skie. But they that are soon weary of walking through infirmity, or cannot walk free enough, may more conveniently ride on horseback.

Moderate walking exercises almost the whole body, causeth an appetite, excites the natural heat, strengthens the body, and helps toward the evacuation of the excrements.

To make exercise profitable for the body, two things are to be observed; time, and measure.

The fit time is before meat, chiefly before dinner.

Exercise is more convenient before meat, because the former meal being concocted, the relicks of the excrements are evacuated by exercise and dissipated: and so the body is the better disposed to concoct and receive new nourishment. Whence *Galen 1. de san. tuen. c. 2.* bids him that hath not concocted rest altogether. But exercise after dinner is worst of all, for it carries the crude humours into the veins, obstructs the liver, oppresses the head, and causes many diseases. For this cause Scholars are often troubled with the Itch, because they exercise after dinner, which carries the meat out of the stomack before due concoction, and fils it full of crude

humours, which vehement exercise carries to the skin, where they turn to scabs. The same happens to those that exercise when the body is in an ill temper and full of vicious humours: which produces scabs and ulcers. As teaches *Hipp. 6. Epid. sect. 5. If he labour unpurg'd scabs will break forth.* Exercise before dinner is better then before supper, because in the morning the stomack is empty, and the concoction better perfected, by reason of the greater space of time between dinner and supper: on the contrary, the meat eaten at dinner is not so well digested.

Yet a gentle walking after meat, is usefull as that which recals the heat, and hastens not away the meat, but causes it to descend to the bottom of the stomack, where it is more quickly concocted, and helps the distribution of the meat also when it is concocted.

The measure of exercise is appointed by *Galen*, 2. *de san. tuen. c. ult.* which may be referred to four heads. 1. To continue exercise till the body swell. 2. Till it appear fresh and lively. 3. Till a weariness come upon it. 4. Till a moderate sweat or hot vapour break forth: any of which appearing, then desist from exercise.

Chap. XXVIII.

Of Sleep and Watchings.

Sleep is absolutely necessary for the preservation of health, and if it be moderate it helps concoction, refreshes and restores the strength lost in the time of watching, moistens the inner parts of the body, and is conducible to old men.

All the good which comes to men from sleep, is to be ascribed to the retraction of the heat to the inner parts. For the heat increased in the bowels generates copious spirits, and restores them that were lost in the time of watching: which helps the concoction in the liver, and several other parts; and forwards the expulsion of the excrements: and because that weakness of the body, which comes by watching, proceeds from a losse of spirits, those being restored, weariness then leaves a man. But by concoction plenty of the nourishing humour is afforded to the internal parts, which moistens them very much, as *Hipp.* taught *6. Epid. Exercise is meat to the joynts, sleep is nourishment to the bowels.* Lastly, it conduces much to old men, because there is nothing more which heats and moistens their cold and dry bodies, and so it restores the moist substance being lost. Whence that of *Homer* cited by *Galen*, *de san. tu. As soon as he hath bathed and eaten, let him sleep, for his age requires.*

Immoderate sleep loosens the members, causes an ill colour and habit of body, makes the head heavy, filling it full of vapours and humours, duls the natural heat, and renders all the parts of the body more unapt to exercise.

This proceeds from an over long retention of the excrements, which are caused by immoderate sleep; for 'tis most true, that sleep hinders all evacuations but sweat; so that after concoction perfected, if the excrements which ought to be presently after evacuated, are kept in the body, it makes it subject to all the above mentioned inconveniences.

In going to sleep, three things are to be regarded, the time, space, and manner of lying.

The

The most convenient time for sleep is the night, an hour or two after supper, a gentle walk preceding, that the meat may the better descend.

The night is fittest for sleep through the moisture and tranquillity thereof, and it affords time long enough to finish concoction, so that it is not necessary to break sleep for businesse sake, as fals out in day-naps.

Sleep at noon is very hurtfull, especially to those that have not used it.

For the time wherein a man sleeps by day, suffices not to finish concoction. Hence it comes to passe that they who sleep after dinner, being raised out their sleep, because of an interrupted concoction, feel a heavinesse in their stomack, belch sowre belches, are fill'd with wind, and have no appetite at supper. Besides sleep by day, filling the brain with over-much moisture, begets Catarrhs and other diseases of the head; for it fils the brain with moisture, which is done sufficiently in the night time, so that there is no reason to oppresse the head in the day time with moisture, but rather by waking to dry up that moisture, which for the most part is excessive.

But if any one by reason of their labour in the morning, or a weakenesse of the body, as in sickly people, become weary, as also not having slept the night before, he may sleep then in the after noon without danger.

Nay an afternoon-nap may be profitable, if very short, which may only serve to recall the heat to the internal parts, for the better perfecting concoction.

For if it last not long, it cannot fill the head with vapours, and yet it recreates the strength, and rather dissipates the vapours in the brain then gathers it, the heat being for a small while drawn inward.

Also in long and hot daies, sleep in the afternoon is lawful to those that do use it.

For the nights being short and oft-times unquiet, it is lawful to sleep at noon, especially to those that have used it, that the want of sleep in the night may be recompensed by sleeping after dinner. Beside, that the spirits which the heat dissolves, are restor'd by sleeping. But such sleep profits them most that are us'd to it; as among the *Italians*, who all the summer sleep in the afternoon and receive great benefit thereby.

As often as a man indulges to that afternoons sleep, it ought to be very long or very short.

Why it ought to be very short, the reason is given before; why very long, is because if the sleep be interrupted before full concoction, the concoction is disturb'd, which causes many diseases.

Yet sleep at noon hurts lesse if it be taken with the body upright and not lying down; for so the vapours have a freer passage to ascend.

Neither must a man sleep presently after dinner, but after a short space and some gentle walking, that the meat may descend to the bottome of the stomack.

The space appointed for sleep, is taken from the perfection of the concoction in the stomack and liver; and that from the concoction of the urine, and cheerfulnesse of the body.

Now some having a quicker, some a slower digestion, those ought to sleep lesse, these more.

So gluttons, men full of humours, flegmatick women, and those that have weak stomacks require longer sleep, because they need a greater retraction of the heat: A shorter sleep suffices fat, temperate, thick, and well concocting persons. Lastly, a moderate sleep must be us'd by those that are sound and in good temper, which is commonly allowed to be for seven or eight hours space.

The manner of lying in the bed ought to be with the head highest, on either side,

but first on the right, then on the left; lying on the belly helps concoction, but it hurts the sight; lying on the back hinders the evacuation of the excrements, being very dangerous for those that are subject to the Stone.

A more erected manner of lying, makes the head freer from excrements: lying on the right side causes the meat to descend to the bottom of the stomack, and is easier for respiration, lying on the left, forwards concoction through the nearness of the liver to the stomack.

To this *Aristotle* adds, that a man must not lie straight, but with his limbs gathered up, for the warmth of the belly.

Moderate watchings quicken the senses, diffuse spirit and heat into all the parts of the body, help the distribution of the nourishment, and further the evacuation of the excrements. But immoderate watching consumes and dissipates the spirits, dries up the body, but chiefly the brain, increases choler, inflames, and is the cause oft-times of hot diseases. Sometimes also of coldness, the heat being dissipated and consumed.

Chap. XXIX.

Of Excretions and Retentions.

TO Excretions and Retentions are referred the excrements of the belly, urine, insensible transpiration, the flowres and seed; which if they come forth seasonably preserve health, but being retained beyond their time, beget several diseases.

The excrements of the belly, if they do not come forth in due time, hinder concoction, deprave the appetite, and beget nauseousnesse, putrid vapours arising from the retained excrements to the stomack, that cause colick pains, the wind being hindred from coming forth, together with giddinesse and head-ache, the fumes arising to the head.

But coming naturally forth, they are soft, of a middle substance, of a brown colour, yet not stinking very much; the quantity corresponding with the quantity of things received.

Natural urine is of a moderate substance, of a brown colour, either with or without a sediment, white, smooth, and corresponding in quantity to the liquor taken in.

Insensible transpiration, if it be prohibited, by a stoppage of the external pores, by the ambient cold, or of the internal, by the bad humours retain'd, causes very great diseases, as Pleurisies, Peripneumonies, putrid Feavers, &c. but being according to nature, it preserves the body in health.

Here we must observe what *Sanctorius* hath said of insensible transpiration, *l. de stat. Med.* where he affirms that more excrements are voided by insensible transpiration, then by all other evacuations taken together, which no Physitians till then ever knew; yet this he saith he hath found by the experience of thirty years, in several bodies exactly weighed both before and after meat, and after voiding of their excrements; which are all to be seen in the Author, or in *Sennertus* in his Theory of putrid Feavers.

The flux of the Flowres ought to be moderate according to the temper and custome of the woman, observing certain intervals, and certain periods.

Otherwise being suppressed, or immoderately flowing, they are the cause of many diseases.

To the excretion of seed, is referred the use of Venery, which if it be moderate offends not the health, though a man may want it without hurt; as experience teaches in Monks and Batchelors. For in those the seminal matter is transmitted to several parts, and consum'd in the nourishment of them; but the seminal parts dry, and are made incapable of their function.

The immoderate use of Venery hurts men more then women, dissolves the spirits, refrigerates the body, weakens the brain, eyes, nerves, stomack and joynts, duls the senses, and begets crudities and stinking breath.

The fittest age for Venery is youth and middle age, it is hurtful to others, especially old men, and men of dry and weak constitutions.

Such intervals are to be observed, as Galen *teaches, that a man may seem more light and nimble then before.*

The Spring is a fitter time for Venery then the Winter, Autumn lesse, and least of all the Summer: at which time it is better to abstain.

As to the parts of the day, Venery is most usefull in the morning, or after a mans first sleep; the concoction perfected, and not after meat.

'Tis most hurtful after hard drinking, strong exercises, in time of famine, or after long evacuations.

CHAP. XXX.

Of the Passions of the Minde.

THE Passions of the Minde have a great influence upon the whole constitution of the body; so that not only extreme sickness, but death also sometimes happens from the immoderate excesse of them; being moderate, they preserve health.

He therefore that labours to preserve his health, ought to seek tranquillity of minde, and resist vehement passion. For so the body is preserved in its natural state, and the passions cause no change in it.

But because it is impossible to be free from all the passions, a man must labour to resist them with all his force, and to bridle their violence. Now the effects of these passions or of the chief of them, we shall briefly lay down.

Moderate joy chiefly conduces of all the other affections to the preservation of health; for by that the heat, spirits and bloud are diffused to the whole body: exciting the vigour of the faculties, nourishing and moistening the habit thereof, and gracing it with a lively colour. Hence that of the Wise man, *A cheerful heart makes age youthful.* But immoderate joy dissipates the substance of the spirits, dissolves the strength of the vital faculties, whence proceed convulsions and sudden death oft-times, especially in old people, women, and weak constitutions.

Sadnesse weakens the natural heat, cools and dries the body, makes the face pale, lessens the pulse, and by a straightning of the heart oft times causes Feavers, hindring the dilation thereof, whence arises putrefaction in the humours. Avicen. l. de vir. Cor. c. 6. *saith that two things do proceed from sadnesse, a weakenesse of the natural faculty, through an extinction of the heat, and a thickning*

thickning of the spirits and humours through cold, which increases the melancholy humour.

Fear cals the heat suddenly to the heart, which causes the outward parts to wax pale, cold, and tremble, the teeth to chatter, an interrupted speech, and decay of the strength; sometimes it loosens the belly, and causes an ejection of urine, a weakness and resolution of the muscles; death sometimes ensues, abundance of bloud being call'd to the heart, by which it is oppressed, and the vital faculty extinguished.

Anger vehemently stirs the heat and spirits, increases and quickens the pulse, whets the choler and increases quotidian and putrefi'd Feavers. If it be too outragious, it overcomes the reason and moves it from its seat. It profits cold natures, for it excites the weaker heat and enlivens it.

OF

THE FIFTH BOOK

OF

PHYSICAL INSTITUTIONS:

CONTAINING

The Cure of Diseases.

THE PREFACE.

THE *fifth part of Physick, containing the Cure of Diseases, is divided into two principal parts.*

The first part contains the general Method of curing, and proposes all the Rules necessary for the cure of diseases.

The second Discourses of the Materials necessary to fulfill those Rules.

Therefore this fifth Book shall contain the general Method of Curing, and the second shall set down the Physitians Rules and Materials.

The first part of the Cure of Diseases.

Of the general Method of Curing.

THE PROEME.

THE Method of Curing, is by Authors said to be twofold, General and Particular. The general Method is that which delilivers the common Precepts which are for the curing of all sorts of Diseases; and shewes what Remedies are proper for similar, what for organick, and what for common Diseases. The particular Method shews how every Species of diseases is to be cured, hapning to every part from the head to the foot: which Method is observed in their works which they call Practick. And this universal cure of particular Diseases depends upon the common Precepts, which are set down in the general Method: and is nothing else but a practise of the general Method upon all the several Species of Diseases, and the several parts of the body. Now because the dogmatical Method of Physick proceeds alwaies by way of Indication, therefore this our Tractate shall comprehend four Sections; The first shall be of the Method of Curing, and their several Indications. The second, of the Indications from Causes. The third, of the Indications from Diseases. And the last, of Indications from the Strength. And so there shall remain no Precept touching the cure of Diseases which shall remain unfolded.

SECT.

SECTION, I.

Of the Method of Curing, and the Indications.

CHAP. I.

What is the Method of Curing, what is Curation, and what are the conditions of it.

THE Method of Curing, is that part of Physick, whereby helps are found by Indications, to restore the lost health.

Curation is the change of the present vitious habit of the body into its natural habit.

Now the cure of a Disease ought to be speedily, safely, and with as much delight as may be to the Patient.

Between the Method of curing and the Cure of diseases there is little difference. The Method of curing being nothing but a rational way which the Physitian observes in the cure of diseases. And by this method of curing which proceeds by Indication, the Dogmatical Physitians are distinguished from others. Because these go by Indications only, as their proper instruments, and the others not. Now in all cures the forementioned conditions are to be observed, upon which, as upon the most sure foundations, the true and rational method of curing ought to lean. Therefore curation ought to proceed safely, if it may expel the disease, as much as can be without fear of a relapse, doing none, or as little harm as possible to the patient, using remedies known by long custome and experience. It ought to be done speedily, yet not omitting any thing that ought to be done; using remedies effectual and equal to the disease, or more forcible if need require. Then it must be done with delight, using among those remedies which are for the expelling the disease, those in the first place which are most gratefull to the palat, and which may be us'd with lesse trouble to the patient: as *Hipp.* teaches, the cure is first to be attempted by diet; then by Pharmaceutical remedies, before we come to iron and fire. Then that the accidents following the disease, as thirst, pain, watchings, may be gently allay'd and asswag'd.

Chap. II.

Of Indications and their differences.

Indication is an apprehension of the thing helping, together with an apprehension of the thing hurting, which together with the thing indicating, comes without any experience or ratiocination, G. l. de opt. sect. c. 11.

Indication is call'd by the *Greeks* Ἔνδειξις, which signifies, a finding out, or demonstration, and so is used in the method of Physick; signifying a demonstration of the remedies. For the Indications declare the nature of the things indicated, shewing and as it were pointing them with the finger to be useful for cure. *Galen* defines Indication, 2. *Metho. c.* 7. an insinuation of the form of acting; which is an explication of the word, as it were shadowing out the nature thereof. That is more perfect which is taken from the Theorem in the same *Galen*, *l.* 1. *de opt. sect.* wherein *Galen* first propounds the convenient Genus; while he saith that it is a certain apprehension or notion, ingraffed into the Physitian and Patient by nature, out of a sense of the thing ill affecting, and a desire to expell it. Then he adds a proper difference, while he would have this notion proceed from the known nature of the thing hurting, to the perception of the helping remedy, *i.e.* from the knowledge of the preternatural effect, for whose sake follows the knowledge of the helping remedy. Lastly, Indication comes without experience or ratiocination, because where first the nature of the thing affecting is made manifest, there from a certain inbred principle is judg'd the nature of the remedy: thus perceiving cold, we inquire for things that heat: we pull out a needle that is run into the flesh, and such other things we do without discourse. Here it is to be observed, the preternatural things do not shew and declare those remedies of themselves, for so they would forward their own destruction; but by accident, for by bringing trouble upon the Patient, they insinuate an expulsion of themselves, and by a certain common knowledge, the use of that which is contrary to them.

To this it may be objected, That if the invention of remedies consist in a certain kinde of knowledge and inbred principle, it will follow, that fools and idiots will differ nothing from skilful Artificers; and that they are as skilful in Physick, as the Physitians themselves. To which it is answered, that there is a very great difference, not in the first and most general Indications which consist in the taking away of the thing which is preternatural, and the use of the contrary, for they are common to all; but in the special Indications, to perfect which it is necessary to know the kindes of remedies and medicinal materials, and also to distinguish rightly of diseases, their symptomes and causes; as also to be experienc't in knowing, the form, quality, quantity, place, time, and manner of giving remedies, in all which Reason is required, and various experience among the Physitians. From whence we conclude, that although Indication primarily and generally, is known without reasoning, yet secondarily and specially it needs it very much; so that not a few famous Authors have referred Indication to the third operation of the minde, which is the art of syllogizing.

This Indication may be divided into four parts.

First, one sort of Indication, concerns preservation, the other curing.

Indication that concerns preservation, regards natural things, which are preserved by their like.

Indi-

Indication, that concerns curation, regards preternatural things, which are taken away by their contraries.

Secondly, Indication is generical, subaltern, and specifical.

Generical, is that which the common general nature of the thing indicating doth afford.

Subaltern, is that which the subalternate nature of the thing indicating suggests.

Specifick, which the particular nature of the thing indicating shewes.

In this series of Indications, all the practise of Dogmatical Physick consists; which he that insists upon, is said to follow a method; proceeding from a generical Indication, by the subalternate, to the specifical and determinate, as *Galen* teaches, 2 *Meth. c.* 7. *He that goes about to make a method, he must begin from the first Indications, and from them to those which are next, and thence to those which are next to them. And he that goes forward must not stop till he come to the end; which is to finde out remedies for every disease.* Examples of the method of the series of Indications may be taken from all diseases. For example, Suppose a cold distemper of the stomack in the second degree, is to be cured. First, here is the disease, whence proceeds the most generall Indication that it is to be taken away. Secondly, there is the disease of distemper, whence proceeds the subaltern Indication, that it is to be altered. The third is the cold distemper which also comprehends a subaltern Indication, that it is to be heated. And lastly, there is a cold distemper in the second degree, which produces the specifical Indication, that the remedy must be heating in the second degree. Beyond this Art goes not, neither does Method descend beneath the lowest species.

Thirdly, Indication is either artificial or inartificial.

Inartificial, is that which is commonly known to Artists, and to the vulgar.

This inartificial Indication is the same with that which we have above named Generical, as *Galen* teaches, 3. *Meth. c.* 7. *Indication,* saith he, *which is taken from a disease, is as it were the beginning, from which the way of curing promotes it self, yet no portion of the Physical Art it self, or certainly not much nor proper to it, but which is common to the common people.*

Artificial Indication, is that which is not known to all, but only to Artists, and requires great skill to finde it out.

As generical Indications are inartificial, so subaltern are more artificial and much more specifical, because they are more difficult, and require greater skill to finde them out; and therefore proper to the method of curing.

Fourthly, Indication is either profitable or unprofitable.

That Indication is profitable which declares such a remedy, whose matter is such, as that it can of it self take away the effects of the disease.

Unprofitable Indication is that which shews such a remedy whose matter is not found to be such, as that of it self it can take away the disease.

Some preternatural effects do shew profitable Indications; others unprofitable. As for example, in a hot and cold distemper, Indication is profitable, because there are many remedies that can effect the cure. But an obstruction, that shewes only that it must be opened, affords an unprofitable Indication; because there is no medicine that can of it self open an obstruction. But the opening of an obstruction looks at other things, as incision, attenuation, absterſion and evacuation of the peccant matter.

Chap. III.

Of the things that Indicate.

The thing that Indicates is a certain agent remaining in the body, which by its proper nature and essence declares a certain help; and that the thing indicated, as is required, ought to be directed to it, that the lost health may be restored.

This definition comprehends only the curing Indicate, not that whose end is to preserve the health, but of that which is to restore it.

There are four conditions of the thing truly indicating.

First, *That it should be a certain Agent, and affect the body.*

So a disease because it affects the body, by destroying and corrupting it, is a thing that indicates, and cals for a removal of it self.

The second condition is, *that the thing indicating remain in the body.*

For as it points out the removal of it self, by remedies which are us'd to the body, so it ought to inhere in the same body.

The third is, *that the thing indicating, should be known to the understanding.*

It is explained thus: For what ever indicates, brings us into the knowledge of another thing, as of the thing indicated, or of the remedy; but that which is not known cannot insinuate the knowledge of another thing. Therefore saith *Gal. 3. Meth. c. 6.* and in other places, that those things which act by an occult quality, and therefore are not known to the understanding, are to be excluded from the method of curing, which is perfected by Indications.

The fourth condition is, *that the thing indicating should indicate one thing, as one thing is indicated only by one thing.*

This Axiom is delivered by *Gal.* 11. *Meth. & l. de opt. sect.* and the reason thereof is, because the Indicant alwaies declares its contrary, by which it is taken away; now there can be but one thing contrary to another: but mark the effect, that which is call'd one, is often compounded; and therefore as it is compounded it may indicate more things: or as *Galen* speaks *9. Meth. c.* 12. *That which is simple, hath a simple Indication; that which is not simple, hath not a simple Indication.* Mark also, that to have one Indicant, is to be generical, subaltern, and specifical; so that having a divers nature, it may indicate several things: by its Generical essence, a Generical; by its Subaltern, a Subaltern; by its Specifical, a Specifical remedy.

But the true and proper Indicants are two, the Disease, and the Cause of the Disease.

The Indicant is a thing beside nature, which is to be taken away by contrary remedies: But remedies are to be applied to the morbifical cause, and to the disease it self. First to the Cause, seeing that as *Galen* teaches, *7. Meth. c* 12. it is impossible that any affection should be cured, the efficient cause remaining. But although *Galen* affirm, that preservation is properly due to the causes; which hath made some to call the Cause, the preserving Indicant; This is notwithstanding to be understood of the avoiding of future and imminent causes, not of those which actually produce diseases in us: in the curing and taking away of which the whole force of curation lies. For no man ever cured a Feaver proceeding from putrefaction, till the putrefaction was taken away. If thou wouldst therefore

talk

talk with *Galen*, let this be only a Preserving cure, when the other may be term'd simply a Precaution in a condition healthy, or valetudinary. Curation must be also applied to the disease; for that being let alone, the disease staies; and indeed sometimes a bare distemper by it self, without the presence of any cause remains very long, as in a hectick Feaver. Then again in most diseases the Indication which proceeds from the effects of the disease, is contrary to that which the cause it self affords; as in a quotidian Feaver, which as to its proper nature would be refrigerated; but as to the cause which is flegm, requires things that heat. Moreover, from the definition of an Indicant above related, it manifestly appears, that those are in an error, who reckon the strength of the body among the true Indicants, whereas every Therapeutick Indicant, requires a taking away of it self; but the strength is alwaies to be preserved; and therefore more fitly to be numbred among the Coindicants, when they are considered in the disease; although in a healthy estate, and in that part of Physick which is called *Hygieine*, the strength does properly and truly indicate, because all Indication considered in that part respects conservation. Therefore in a word we may conclude, that the strength of the body in the preserving part of Physick, is a true Indicant; in the curing part, a Coindicant.

A symptome notwithstanding cannot be numbred among the Indicants.

Though Indications are taken from supernatural things, yet they are comprehended in three things; as they contain the disease, the cause of the disease, and the symptome. Yet all Indications are taken only from the disease, and the cause of the disease. For the symptome borrows its essence and existency so dependingly from the disease, that the one taken away, the other presently vanishes. And though there be a certain mitigation due to the Symptome, which is subalternate to Curation: yet that doth not happen as it is a symptome; but as it obtains the reason of the cause, and by its presence may prolong or increase the disease. So bleeding is to be stopped, because it may be the cause either of a cold distemper, or of death it self; water is to be taken from Hydropical persons, because it increases the distemper of the Liver. So pain is to be allaied in a wound or inflamation, because it increases the violence of the Flux, and weakens the natural strength.

Chap. IV.

Of Coindicants, Contraindicants, and Correpugnants.

Coindicants, are those things which do not properly shew the use of the remedy, but increases the efficacy of Indication, that endevours to perswade it, or to render it more easie.

Those things are natural, or not natural.

To natural things are referred the strength, temperament, age, sex, custome and manner of living, also the part affected and its substance, the temperament, action, figure, situation, connexion, dull or exquisite sense.

To things unnaturall are referred these six things, the air, meat and drink, motion and rest, sleep and watching, excrements and retentions, and the passions of the minde.

To the Air is referred the house, countrey, season of the year, day, hour, winds, quarter of the Moon, and the various positions of the stars.

As

As the true and proper Indications are taken from things preternatural, so Coindications are fetched from things natural and not natural; because though remedies do not primarily indicate, yet secondarily they do: and without a diligent observation, there cannot be a right use of them. Therefore *Galen* in his Books of Method, cals those things which are truly Coindicant, simply Indicant, though with a larger acception of the word; which is diligently to be observed, lest the reading of *Galen* should breed confusion. First therefore the true and natural indication of things natural, is conservation: but because nature cures diseases, using remedies as instruments, and reduces them from power into act; therefore the strength of it is to be considered; that by that the force of the remedy may be conjectured at. Thus if a violent disease require a violent remedy, and that the strength is in a very good condition, and can bear the force of the remedy; then the strength is said to coindicate. So a hot temper in a hot disease coindicates cooling remedies, and contrariwise. But then the disease which is most distant from the natural state, wants vehement remedies, but that which goes lesse from the natural state, and is pretty near the nature and temper of the Patient, is to be cured with easier remedies.

The same things, Age, Sex, Custome, peculiar temper and manner of living are wont to perform: which set forth the particular condition of the strength and temperament. Then after consideration of the whole, some consideration is also to be had of the part affected, which very powerfully coindicates in the use of the remedy, in observing the substance, temperament, figure, situation, connexion, action, and exquisite or dull sense thereof, according to which variety the use of the remedy is to be changed. Lastly, things not natural coindicate, because their several conditions change the use of the remedy; so hot air in a hot disease, coindicates a cooling remedy; and shews it must be more violently applyed, then if the disease had hapned, the air being colder and more temperate; although the air coindicates more then any other thing not natural.

Contra-indicants, are those which are opposed truly and diametrically to Indicants.

The name it self shews that Contra-indicants are contrary to Indicants: now being that contraries are to be placed under the same Genus, and that true and primary Indicants, are things not natural; therefore Contra-indicants are also preternatural things which are opposed to Indicants. As when one disease is opposite to another, or one cause to another; or when the disease is opposite to the cause, or the cause to the disease, and points out a contrary remedy: so a hot distemper of the liver requires cooling things, to this a cold distemper of the stomack doth contraindicate, both being in the same individual: so a quotidian Feaver, of it self requires cooling things, but the cause contra-indicates, which is a flegmatick humour, and requires hot remedies.

Correpugnants are those which are opposite to Coindicants.

As true Indicants are said to be primary Indicants, and Coindicants secondary Indicants: so true Contraindicants, are said to be primary Contra-indicants; and Correpugnants are said to be secondary Contraindicants.

Now these Correpugnants are the same in kinde with Coindicants, that is, things natural, and not natural; but only as they resist the remedy indicated by such a disease, or the cause thereof, and disswade the use thereof. As when bloud-letting or purging is indicated by the Morbifick cause, but the strength is too weak, for then the strength is said to be correpugnant, or to contra-indicate by a secondary contraindication. So also a putrid Feaver indicates purgation

in

in the dog-daies, as to the cause, but the hot air resists, or is correpugnant; and so it is to be said of others. Here it is to be noted, that the name of Correpugnancy is seldom in use among authors, but the word Contra-indication is still used with the addition of primary and secondary.

CHAP. V.

Of the things Indicated.

THE thing Indicated is that which is shewn to follow from the nature of the thing indicating, that by the efficacy thereof a preternatural indisposition may be taken away.

Hence it appears that the thing indicated is nothing else but the remedy; which *Gal. l. de constit. art. med. c.* 4. saith to be whatever helps the body to reduce it being ill affected to its natural state; for it is called by several other names both by *Galen* and other authors; for it is call'd, the thing profitable, the thing required, remedy, succour, intention, scope; though the word Scope is us'd also in another sense, as when *Galen* sets down the greatness of the disease, and the strength of the body, as the scope of bloud-letting; for when Scope signifies Indication; and indeed the thing indicating is usually call'd the first scope, and the thing indicated, the second scope.

The consideration of every thing indicated, belongs to the Genus or kinde of the remedy, and the right administration thereof.

To the Genus of the remedy belongs the first scope, which inquires what is to be done.

To the right administration of the remedy belong the four scopes, which enquire how much is to be done, in what manner, when and where.

What is to be done, or the Genus of the remedy is taken from the Essence of the thing indicating, or the thing preternatural.

So a cold disease indicates heating, a hot refrigeration, repletion evacuation, solution of the continuum, that the flesh is to be clos'd, and so of the rest.

By the Genus of the remedy, we do not only understand the chief Genus, but also the subalternate and the specifical Genus, that remedies may be found to satisfie the generical subalternate, and specifical Indications which were explained in the 2. Chap. As for example, a Feaver in respect of its chief Genus, which is a preternatural effect, cals for a remedy to remove the Feaver; in respect of his subalternate Genus which is the preternatural heat, it indicates a cold remedy. And in respect of his specifical Genus, which is the hot distemper in the second degree; it intimates a cold remedy in the second degree; whence it is easie to gather, that the quality and degrees of the remedy belong to the Genus thereof, though they are by some badly distinguished, and the degree of the remedy erroneously referred to the quantity thereof. That is also to be rejected which is delivered by some; and indeed by *Galen* himself, that the Genus of the remedy is judg'd from the name, dignity, quality, action, substance, situation of the part, strength of the Patient, and such like. For as is said before, one thing is indicated but by one thing, and every thing that indicates is preternatural, but the nature of the part, action, &c. are preternatural things, and therefore according to the foundation above laid, those do only coindicate, or are correpugnant; and that we may bring

the

the minde of *Galen* to an exact rule, we must say that he names coindicating things there not as true and proper indicating things, but as things indicating secondarily, for which reason they are diligently to be observed, as mainly conducing to curation. So the liver, heart, and other parts which are more excellent, do not bear vehement remedies, and resist the use of them; so those parts which are of a cold nature, while they labour with a hot affection, desire remedies that cool very much, when in the same affection they recede farther from the natural temper then those things which are hot. In the same manner those things which are endu'd with an exquisite sense, sustain not such painful medicines as the affection requires; also those diseases which are deep in the body and far from the external superficies, require stronger remedies, then the affection it self naturally requires, and the internal parts do not admit such things as have either a corroding or venemous quality, which their affections do require, though the externall parts can bear them.

How much is to be done, signifies the quantity or dose of the remedy, which is judged by the greatnesse of the disease, or by the depravement of the natural habit, more or lesse.

The quantity of the remedy also is taken for the degree and vehemency of the remedy; but with those that are more exact the whole dose is only referred to the quantity, when the degree is referred to the Genus of the remedy, as is said in the former Theorem. But as the disease recedes more or lesse from the natural state of the body, a greater or lesse dose is to be exhibited, for in a greater quantity there is a greater quality; and so in a greater excesse, a greater dose is to be prescribed, that it may exceed the disease. Things also indicating in a secondary manner, conduce much to determine the quantity of the remedy, which do not truly indicate, but coindicate, and are repugnant. So the natural temper of the part indicates the quantity of the remedy, according to the excesse of the distemper: so the parts which are seated within the body, require a greater dose of physick, that the faculty thereof may be the more easily carried to the part affected; so an Erysipelas in the thumb requires a greater dose of Oxycratium, then one in the thigh or arm; so an inflamation of many internal parts, requires a greater quantity of cooling physick, which may suffice to allay the heat.

In what manner, or the way of applying remedies, signifies nothing else but whether those remedies are to be applied once or twice, seldom or often; now this is indicated from the manner of the preternatural affection.

So when a disease afflicts continually and vehemently, medicines are to be applied suddenly and fast. If the cause of the disease swell, and there be an Orgasmus, if the matter be fluid and apt to run, if it be well concocted, then it requires a sudden evacuation; but if it flowes slowly and by intervals, and threatens rather a long continuance through crudity then any danger; then with things that alter and purge, the matter is to be altered and evacuated.

To indicate the manner of using, the secondary Indicants do not a little conduce, as far as they do coindicate, or are correpugnant.

So strength of nature easily assents to a strong remedy; but a weak habit must have gentle mutations, by intervals; so the thin and soft substance of the parts, or which hath a more exquisite sense, cannot so well endure the force of a violent remedy, as the solid, thick, and lesse sensible. Also a remote situation of the parts requires the remedy should be used often, that it may at length penetrate to the part, with-

without any prejudice to parts that lie between. In a noble part also a man must proceed warily, and by degrees, lest by the sudden alteration of the part, the body should sustain greater harm.

When it is to be done, is the convenient time and fit occasion for the administration of remedies.

This is double, general or particular.

The general time is one of the four times of the disease, the beginning, increasing, height, and declination.

So *Gal. l. de opt. sect. c.* 37. teaches at what time cold water is to be administred, whether in the beginning, increase, height, or declination. So in the beginning of inflamations, the practicks teach us, that in the beginning, repelling medicines are to be applied; in the increase, resolving joyned with repelling; and so of the rest.

The particular time for administring a remedy, is the second hour of the day.

So *Galen* in the same place teaches, in what day and at what hour of the day cold water is to be used: so a purging medicine is to be used the sixth day, or some such like in the morning.

Vnder the time is reduc'd, the order of the remedies, though some erroneously distinguish order from time, and so constitute another scope in respect of that.

In a simple or compounded affection, if more remedies are to be us'd, as it most commonly happens; we must observe at what time every one is to be us'd; and this regards order; as for example, In respect of the Feaver, cold water is to be drank; in respect of the cause, a vein is to be opened. Now while there is a fit time to be prescribed for both these, the order is also constituted, which is to be observed in performing them.

The time, occasion, and order of remedies, is indicated by the presence of the most urgent Indicant.

When and as often as the disease requires, we must alwaies endevour against it; and therefore the presence of the disease or the morbifical cause, shewes the time and occasion of applying remedies; but when more do urge at once, we must resist the most violent. But in the usurpation of these there is alwaies a regard to be had of the Coindicants, and Contra-indicants. For though the presence of the affection perswades the using of a remedy, yet the strength and nature of every particular patient, may prohibit something or other.

Where it is to be done, shewes in what place, and through what place the remedies are to be administred, and is indicated by the place of the Indicant.

If the disease or the cause of the disease possesse the whole body, remedy must be used to the whole body; if it oppresse only one part, remedies must be applyed to that part only; if the external parts be affected, the remedies must be applied outward, if the internal parts be affected, they are to be taken inward; and if the remedy reach both waies to the part affected, it may be us'd both waies.

To shew the place also of the remedy the Coindicants do not a little conduce, and especially the forming of the parts, the situation and connexion.

So the Ventricle is purged by vomit and stool, the hollow part of the Liver by dejection or loosnesse, the convex part by provocation of urine chiefly. To the guts we apply remedies through the fundament.

In the same manner Correpugnants are to be considered, which prohibit the use of the remedy.

For example, the inflamed orifice of the stomack might be externally refrigerated, if the nearnesse of the *Diaphragma* did not hinder it; and so also the outward calefaction of it, when it is cool'd, is hindered by the lapper of the Liver which lies upon it.

Chap. VI.

Of the first and most general principle of Curation.

All methods of curing, are taken from this first and most general principle, Contraries are cured by contraries.

Although there is no disputing of principles, they being to be granted for true and unquestionable, as *Galen* teaches of this *principle of Curation*: that in Physick 'tis as certain that contraries are cured by contraries, as in Mathematicks, that twice two are four; and that this principle is not only bred in men by nature, but also in beast.

Yet there are some objections which at first sight do seem to question the truth thereof.

1. *Tetanus* is a cold disease, yet is cured by cold water; pain, is eas'd by pain; vomit, by vomit; loosnesse, by loosnesse.

2. All contraries are made more intense by the approach of contraries; as if a man put his hand to the fire when it is num'd with cold, it is more tormented; also if a man put his burnt finger into cold water, it torments him more then if he should hold it to the fire, or dip it in Aqua vitæ.

3. Purging medicines are proper remedies against peccant humours, yet they purge those humours by a familiarity, not a contrariety which they have with those humours.

4. Nature useth to cure both hot and cold diseases, with which it can be at no contrariety.

5. Diseases have no contrariety of number, magnitude, or figure, by which they may be taken away.

To satisfie these Objections, we must say that the word Contrariety hath a larger signification with the Physitians then with the Philosophers; being not only with them considered as to the form, but as to the effect and operation.

For what ever can remove a thing which is besides nature, or induce a contrary effect, whether it be by it self or by accident, is named contrary. So Rhubarb is contrary to choler, as it purges it forth; so Iron and fire is contrary to superfluous flesh, because it takes it away; which being thus premised, it will be easie to answer these objections.

To the first we say that the Tetane is cured by the effusion of cold water by accident, the heat being increased by Antiperistasis in the interior parts; pain is taken away accidentally by pain, while the new pain draws to it self the cause of the new pain; vomit is cured by vomit, loosnesse by loosnesse, the cause being evacuated which occasioned them.

To the second we say, That the contention of contraries is troublesome to nature, if it be sudden and vehement, but if it be moderate and convenient, it is very agreeable; so the hand benumm'd with cold, being held to the fire, is tormented, because there is too sudden a contention of contraries; but being put into luke-warm water,

water, or wrapp'd in warm linnen, it come to it self: so the finger being burnt, and held to the fire, or dipp'd in Aqua vitæ is eas'd, in respect of the cause, for the hot things draw forth the fire fixed in the part which the water drave farther in.

To the third I answer, That though purging remedies are of a familiar substance with the peccant humours, yet they may effectively be said to be contrary, because they purge them and draw them out of the body.

To the fourth I answer, That nature is contrary to all diseases, by reason that it concocts and expels the cause of them.

To the fifth we say, That those things are effectively contrary to number, magnitude and figure, which do take away or alter them, as iron, fire, ligatures, and the like.

Those contraries as much as may be, ought to be equal among themselves.

That equality is indicated from the nature of the disease and the morbifical cause, which indicate a sudden removal thereof. But the strength, part affected, and time of the disease, and other circumstances, are equally repugnant to them. Therefore in the Theorem is added this particle, *as much as may be*; because the equality of contraries is not absolutely necessary to curation, but only to the more commodious curation, if the rest agree.

The equality of the remedy in respect of the disease, is doubly considered; either according to the degree, copiousnesse, or magnitude.

An equal remedy as to the degree, is that which hath the same recesse from the mean as the disease. Thus a cold remedy in the second degree is equal to a disease hot in the second.

An equal remedy according to the magnitude and copiousnesse, is that which besides the degree of its quantity being exhibited, once, twice or more times, may purge out the disease.

In this sense a moderate and vehement remedy may be said to obtain an equality against any disease; when as being vehement, once or twice taken, being moderate, oftner used, it avails to remove the disease.

Moreover, equality in degree, is so either actually and really, or else in respect only of the operation.

Thus in similar diseases, there is granted a degree of contrariety existing in act, as a hot remedy in the second degree us'd to a cold disease in the second degree. But in diseases as to the form of the part, magnitude, or number, the remedies are said to be equall according to the operation which they make appear, in restoring the form, magnitude, or number of parts.

By that which we have above said, may all the objections be easily resolved, which wont to be brought against the contrariety of qualities, of which the chief are these.

1. *Hipp. 6. Epid.* saith contraries must be used by degrees, and with intermission.

2. *Galen* forbids efficacious and violent remedies at the beginning, commanding us to begin with the weakest at first.

3. The efficacy of cold is lesse then that of heat; the efficacy of moisture lesse then that of drought, and therefore are not to be opposed in an equal degree.

4. To hot and cold diseases in the fourth degrees, must not be exhibited remedies hot and cold in the fourth degree, for they are poyson.

5. If all diseases were cured by equal contraries, the proportion of the agent should be equall in all things to that which suffers, and so the same sud-

denneſſe of alteration, and ſo all ſick people would be cured in the ſame time.

6. Reduction according to *Galen* ought to be made in ſound bodies by equall contraries; and in ſick perſons, thoſe which are moſt ſtrong ought to be uſed, becauſe the diſeaſe ought ſooner to be removed then the natural temper.

Laſtly, *Paulus* at the beginning of *l.* 4. Rightly ſaith he in my opinion hath *Aretæus* the *Cappadocian* delivered to memory, that the forces of the diſeaſes ought to be ſtronger then the diſeaſes, and that therefore Leproſie is never cured, becauſe there is no Phyſick ſtrong enough againſt it.

To the firſt we ſay that *Hipp.* exhibits contraries by degrees; and *Galen* admoniſhes us to begin with weak things, in regard of the circumſtances, leſt the ſtrength ſhould be impaired; or in regard of the Contra-indicants, leſt the crude matter ſhould be agitated in vain, the diſeaſe it ſelf perhaps requiring equall things.

To the third we ſay, That though the force of cold be leſſe then that of heat, and that of moiſture more then that of drought, yet becauſe we regard equality in the laſt limit of the action, therefore they ſhall not be accounted leſſe equal, if they can reduce the exceſſe of the diſeaſe to a moderation.

To the fourth I anſwer, That poyſons are alſo us'd in Phyſick, if the nature of the diſeaſe require, and that they be rightly prepared.

To the fifth I anſwer, That the time of cure is not equal in all diſeaſes, becauſe it is not lawful in all diſeaſes to uſe equal contraries, by reaſon of the various diſpoſition of the ſubject and circumſtances; and though the uſe of them ſhould be admitted, ſpeedineſſe of cure is not requiſite in all diſeaſes, by reaſon of the great variety of accidents more in one diſeaſe then in another.

To the ſixth we ſay, That though reduction ought to be made by equal contraries, yet they work not with the ſame efficacy as in the cure of a diſeaſe; which being in the diſpoſition, is more equally remov'd by contrary equals, then the temperament, which is in the habit, and therefore more hardly corrupted.

Laſtly, to the authority of *Paulus* and *Aretæus* we ſay, That remedies equal to the diſeaſe in regard of the intention, are more ſtrong in regard of the effect, for nature helps them and fights with them againſt the diſeaſe.

Chap. VII.

Of the invention of Remedies.

Remedies fit for the cure of the diſeaſe are found out by a threefold way: by Reaſon, Experience, and Collection of likelihoods.

By Reaſon remedies are invented through indications, when the diſeaſe and the nature of the diſeaſe is known to us.

So we ſay that a Feaver indicates things that are refrigerate, becauſe we know the nature of it to be hot and hurtful to us, which requires things contrary, and a removal thereof.

By Experience Remedies are found out, when by many examples it is obſerved, that ſome remedies are good againſt ſome diſeaſes, though the cauſe of that effect be not known.

Galen writes that Phyſick leans upon two pillars, Reaſon and Experience, which

which is not to be understood of that rude experience which Empiricks and simple people use so rashly in all diseases; but that only which concerns those diseases and those remedies whose nature and cause is unknown; as Antidotes against poyson and venomous diseases, are known by experience, but without reason.

By Collection of likelihoods, remedies are found out when such remedies are applied to an unknown disease, as cure diseases of the like nature.

So in the *French* disease, when it first began and was unknown, those remedies which were used in Leprosies and foul scabs, were not unfitly used for that also.

SECTION, II.

Of Indications from the Cause.

CHAP. I.

Of Evacuations in general, and their differences.

IN the most orderly cure of a disease, first the morbifical cause is to be removed, then the disease, if it remain after the removal of the cause.

To the most lawful curation is opposed a disorderly and extraordinary, which we are fain sometimes to make use of, when some urgent distemper is to be removed before we take in hand to destroy the cause, or else some great symptome is to be removed.

The morbifical cause is manifold, but the chiefest and most ordinary is the humour, because humours breed diseases, more then any other thing.

The chief and most ordinary remedy against peccant humours is evacuation, which is nothing else but an expulsion of the humour out of the body.

That is twofold, universal or particular.

The universal is that which drawes the humour out of the whole body, and the three regions thereof.

The first of the three regions of the body, is that which contains the stomack, guts, Mesaraick vein, and the other branches of vena porta, *the hollow of the liver, the spleen and the sweet-bread.*

The second region comprehends the convex part of the liver, all the hollow vein and the great artery which accompanies it, and whatever fals between the arm-holes and the hips.

The third region comprehends the muscles, membranes, bones, and the whole substance of the body to the outward skin.

Besides

Besides those common Regions, there are many other which are called particular; in which the excrements are kept, as the brain, lungs, reins, and womb.

Universal evacuation is wont to be performed by opening a vein, loosening the belly, vomit and sweat. For which soever of these first happens, as they do very much evacuate one region, so consequently they do also evacuate the rest, though much more sparingly.

Bloud-letting empties first the veins, and then the arteries joyned to them by Anastomosis, then the whole body and the bowels proceeding to the very roots of the veins.

Scowring purges first the guts, stomack and bowels, and then the veins and habit of the body.

Vomiting purges the stomack, bowels and greater veins, lastly the habit of the body.

Evacuation by sweat, first purges the habit of the body, then the greater veins and arteries, and lastly the bowels, and is a particular evacuation from the innermost part of the body, bringing out the excrements from some peculiar part.

Of this nature is the purging of the brain through the palat and nostrils, of the breast by hawking, and of the bladder by urine.

All evacuation is either spontaneous or artificial.

Spontaneous, is that which comes from the body without the help of Physick. And this is two-fold, natural or symptomatical.

Natural, is when the vitious humours are expelled by the force of nature rightly operating.

Symptomatical, is made either by the reason of the faculty, or the matter.

By reason of the Faculty, is when that being weak cannot retain and govern the humours of the body, but suffers them to flow about without controll.

By reason of the Matter, when the humour is peccant either in its quantity or quality, so enrages it, that it is forc'd to expell it out of its vessels and receptacles.

Being preternatural, they are both vain and of no use, because the benign and wholsome humor breaks forth together with the pernicious, without any order or rule.

Artificial evacuation, is that which is done by help of medicines.

And that is twofold, Universal, and Particular.

Universal, is that which brings out the humours out of the whole body.

Particular from one part only.

Again, Evacuation hath a twofold end, Revulsion and Derivation.

Though for other ends Evacuations are oft-times commended, as shall afterwards appear; yet because Revulsion and Derivation are most in use, and have most difficulties, therefore we shall explain them apart in the following Chapter; together with particular Evacuation, because of the great affinity between them.

Chap. II.

Of Revulsion, Derivation, and particular Evacuation.

Revulsion, is an averting of the humour flowing into any part, to the opposite and most distant parts; having a regard to the original of the flux, the community and good condition of the vessels.

Evacuation of the humour regards it either as it is in motion, or in rest.

To

To the humour moving or flowing into any part, revulsion and derivation is necessary; to the humour resting, evacuation. Revulsion ought to be made in the remotest place from that part troubled with the flux, as *Galen* teaches, 13. *Meth. c.* 11. & 2. *Glaucon. c.* 2. and the nature of Revulsion it self shews as much; for we endevour that that which is drawn back, may not return; which end is more easily attained, if revulsion be made to the most opposite and remote parts. Yet this is not simply and absolutely to be understood, but with conditions supposed, which shall be set down in the following Theorems.

The opposition or contrariety of the parts required in Revulsion, hath three conditions.

The first condition is that revulsion be made to the original of the flux.

As often as the original of the flux is known, Revulsion is alwaies to be opposed to it, and the humours, and to be drawn back to it again. As for example, if the Flux be from the liver to the womb, the vein of the right arm is to be opened, that the humour may be reduc'd to the source and original of the Flux.

The sentence of *Galen* seems to contradict this condition, in his book of curing by Bloud-letting, *l.* 6. where he would in an inflamation of the womb, that the thigh should be let bloud. To which we answer, that the lower veins are to be cut in an inflamation of the womb not as to simple revulsion, in which case it would be better to let bloud in the superior parts, but for derivation also as well as revulsion. By which answer other places of *Galen* are made plain, where he teaches, that the parts below the reins being affected, that it is better to cut the lower veins, that derivation and revulsion may be both made together, when otherwise as to simple revulsion, in those affections the upper veins only use to be opened.

The second condition is, *that the communion of the vessels be regarded.*

If the original of the Flux be known, it is enough to observe the first condition, that the flux be drawn back to the part from whence it flowes. But when that part is not known, then the two latter conditions are to be observed which concern the part receiving, that the communion of the vessels and the right habit of the parts be observed. Those vessels are said to have a communion which have a relation to the part affected. So in a flux of bloud from the nose, the veins in the arm are open, and not in the thigh; though these are more distant from the part receiving, because they have a lesser relation to the part. So *Galen* in 13. *Meth.* in a flegment of the liver, cuts the inner vein of the arm, because it keeps correspondence with the liver by a large and broad way. So also *l. de tremor.* If, saith he, you cut the veins which have no agreement with the part affected, you do that part no good, and hurt the sound part by drawing from it that bloud which it may want.

The third condition is, *to observe the right direction of the vessels.*

This condition is of most moment and chiefly to be observed in all revulsions: for it is founded upon the neer consent and relation which the parts of the same side have one to another, which is confirm'd by many experiments. The right side of the womb is so much hotter then the left, that thereby the right side formeth males, the left females. The cause of this increase of heat is the directnesse of the liver to that part; for the vicinity and community of the vessels are not alike to both parts. A Palsie possesses an exact half of the body, the other unhurt, and yet the humour fals down from the third and fourth ventricle of the brain, in which there is no separation of the right from the left. So the liver being inflamed, if bloud break forth from the right nostril, it cures it; if from the left only it

avails

avails not; there being but one vein which comes from the liver to each nostril. If the left arm be open, the spleen is evacuated, and the left side, which would not so fall out from the right arm. Yet the left, if you look at the communion of the veins, draws not from the right, but by the intervening of the the liver. And lastly, *6. Epid. Hip.* saith that the permutations of diseases, Crisis and Apostems are made directly, and in a straight line.

But why the direction of the vessels should avail so much, is hard to say, though there are many opinions, among which to let go the rest, the most probable is that which hath been confirm'd by certain very grave Authors; that there are many channels that run through the whole length of the body, by which there is a free passage upwards and downwards of every thing contain'd in the body; which notwithstanding are not distributed through the sides. But those channels, because they are not conspicuous to the sense, are confirmed by two reasons besides the above mentioned experiments.

The first is taken from the end, seeing that nature being solicitous for the conservation of individuals, constitutes them as it were of two parts, that so the one suffering any mischance, the other may remain whole. Thus when by any misfortune one eye, ear or arm perishes, by the other eye, ear or arm, life is preserved; and so as it were two living creatures, the right and left being joyned into one, she hath made their life more lasting.

The second reason is taken from the event. For an alteration is made suddenly from the right foot to the right arm or shoulder, and contrary; as also the right part of the head being affected, and the humour descending, the right part of the neck swels sooneſt, so the humour staies there; or if it descend to the breast, the right side is repleted sooner then the left: or lastly, if the humour descend to the inferior parts, it causes the gout in the right side sooner then in the left. By the same reason the foot being afflicted in an Epilepsie, some matter ascends to the head, which could not be, unless those channels were granted, which as they are hidden in dead men, so are they manifest in those that live, and through those the humours are carried straight forward, ascending or descending finde an easie way, if they be drawn, expell'd, or any other way mov'd up and down by the force of remedies.

By what we have said before, the opinion of the *Arabians* is easily confuted, who make revulsions without observing that directnesse of the vessels to any terms of contrariety; of which they make three sorts, from the upper parts to the lower, from the fore parts to the hinder, from the right to the left. Whence *Avicen fen. 10. l. 3. tract. 5. c. 1.* in a Pleurese and other internal inflamations, first causes a vein to be opened in the ankle of the same side: secondly, the common vein in arm of the contrary side: and lastly, the inner vein of the same side. Which doctrine is manifestly contrary to *Hippocrates*, and the true method of curing. Besides this also the *Arabians* are defective in numbring the Diameters or quarters of the body, when as they constitute only three; for they should have joyn'd a fourth, that is from internal to external: which *Galen* proposes in his Book of Revulsion; and that is observed in a Pleurese, when a vein is cut in the same side; for then revulsion is made from the interior parts to the exterior.

Revulsion is double, Vniversal and Particular.

Vniversal, is that which observes the whole body, and in that respects the contrary terms whence the humours flow.

This is chiefly performed when the greater veins are cut, and the Liver as the original of the fluxions is exhausted; and is therefore the most useful and most

secure;

secure; that when the original of the flux is not known, that Revulsion be performed by the greater veins through the liver, for so the veins being emptied, they retain the rest of the bloud, and will not permit it to flow: whence *Galen* first *ad Glaucon.* 14. would have the flux of inflamations drawn back either from, either to the common vessel, or to the original of the flux. So 2. *Acut. c.* 10. *What ever vein is opened it empties the whole, because there is but one conflux and passage of all things in the body.* But with this difference, that some veins exhaust some parts sooner then others.

Particular Revulsion which is also called local, is that which in one member only respects the contrary terms and bounds.

This is observed in the opening of lesse veins, which draw only from one part, and simply deserves not the name of Revulsion, and is properly to be referred to derivation, and therefore only retaining the name of Revulsion, that these precepts may be consentaneous with the doctrine of *Galen*, who cals derivations of this nature by the name of Revulsion. For explaining the 68. Aphor. of *Hipp.* sect. 5. who so writes, *The hinder part of the head being affected, a vein is to be cut in the forehead*; he saith that Revulsion ought to be according to longitude upward and downward, according to latitude in the right and left hand, according to depth from the foreparts to the hinder; and that therefore the hinder part of the head being affected, Revulsion ought to be made by cutting a vein in the forehead; which is particular and local. Revulsion and in a plethorick body ought not to be used but after universal Revulsion.

Derivation is an averting of the humour flowing to any part through the near parts.

Because Derivation is like particular Revulsion, therefore from the explication of the foregoing Theorem, the nature of Derivation is made plain enough.

In Derivation, the communion of the vessels is perpetually to be observed.

Derivation in this differs from Revulsion, because that is made to the opposite and distant parts, this to the near part; so in a fluxion that fals down to the teeth and eyes, a vesicatory is applied behinde the eyes for derivation of the humour.

Particular Evacuation, is that which evacuates the humour out of any particular place.

But this is to be done after Revulsion and Derivation.

The manner of it is twofold, Sensible or Insensible.

Sensible, is performed either by the passages made by nature for that purpose, or by Iron, and Caustick.

So the Brain is evacuated through the nostrils and Palat, the Bladder through the Ureter, the Lungs through the rough Artery, the Bladder through the Ureter, that is to say, through natural channels. But the matter of Apostems and things of that nature contained in a part which wanteth channels, we draw forth by artificial opening.

Insensibly, it is performed through the pores and insensible passages of the parts; and this is properly called Resolution.

So the matter contained in any part, breeding swellings and such like affections, is resolved by fomentations, oyntments, plaisters, and such like remedies, without any manifest evacuation.

In the right administration of Revulsion, Derivation, and particular Evacuation, the following Theorems are to be observed.

When a flux urges very much, revulsion is to be used; but when it is almost spent, derivation, then when the flux fals down no more but that the humour is fixed in one place, particular evacuation.

When the matter that flows is venomous, it is not to be drawn back; but from the beginning to be vacuated through the part receiving.

So in Carbuncles, malign Scabs, small Pox, pestilent and pockie Bubo's. It is not lawful to cut a vein for revulsion, but only for simple evacuation, if the body be very Plethorick.

Revulsion, Derivation, and particular Evacuation may be performed altogether at one and the same time with one and the same evacuation.

Although Revulsion, Derivation, and particular evacuation seem in a manner contrary; one being to be done to the distant, the other two to the near parts; yet there may be many evacuations partaking of them all together. If the middle distance, between the near and most remote part; as in a Pleuresie, when a vein in the arm is opened, that which flowes is drawn back, that which is near to the receiving is deriv'd, and that which is fixed in the narrow passages of the part is evacuated. But these evacuations made together and at once are most profitable, as may be collected out of a precept of *Galen* not known to the common Physicians. 6. *Epid. sect.* 2. where he teaches, that a man must not insist upon revulsions all the time of the flux, but the middle time is to be interposed for the vacuation of the humour contained in the part. For so at length the flux will cease, if the flowing matter be averted by distant revulsions, and that by near evacuations the pain and heat of the part be taken away, which are the causes of the flux. If therefore the humour flowing, it be granted that by a moderately remote section of a vein, a man may both avert and evacuate, no doubt but that is to be embraced. Which *Galen* observes in an inflamation of the liver, and in other cases; as also is usually done in a Pleuresie, as we have shewed above. Lastly, out of *Galen* 13. *Meth.* c. 10. *If a flux only is to be cured, the most distant part is to be cut; if a repletion, the neareſt part.* Hence it appears, that where they are both joyned together, there a moderate distance is to be observed.

But when Revulsion and Derivation are performed both at once from one vein, that moderation is to be used, that the vacuation be not little, which being only agitated increases the flux, rather then allay it by extraction of the humour: and care must be taken, that the same day, if nature suffer, or at fartheſt, the next day, that the same vein be opened again.

This is a most useful precept and of great moment in Physick, though many regard it not to the great dammage of their patients; for if at first the bloud be sparingly let out, and not in a sufficient quantity, it runs more vehemently into the part. Then it being not lawful to exhaust the whole at the first section, but only as to the change of colour, according to *Hippocrates*, and that the strength will not bear a greater, it remains that what the first section only left the second should take away. And whereas the place affected being emptied, it sucks bloud from the near places and vitiates it, unlesse it be taken away by the benefit of that second evacuation, it is unavoidable that it should putrefie and breed a greater mischief.

The quantity of Revulsion and Derivation ought to answer the quantity of the flux if the strength can bear it.

So when the flux is great, if derivation and revulsion is to be performed by bloud-letting; the bloud must be taken away in that quantity that it may exhaust all the matter of the flux, regard being had to the strength, that they are able to bear

bear a total evacuation. And here we may take notice of that notorious precept of *Hipp. 2 de vict. rat. in acu. text* 10. where he teaches the manner and limit of bleeding in inflamations, especially in Pleurefies, that is to the alteration of colour. For that change of colour shewes that the bloud comes from the very part affected, as *Galen* teaches in his comment. on these words: *Whatever bloud*, saith he, *is contained in flegmone, that changes colour through the abundance of heat, but the rest remains alike in all parts. For that cause the bloud which is diffused through the whole body being more flegmatick, will be more ruddie in that side which is oppressed with the flegmone. But if the bloud which is diffused through the whole body, be more ruddy, it would be more adust and blackish in the side possessed with the flegmone.* Therefore change of colour certainly signifies a translation of the bloud from the part affected. But a man must not alwaies expect it, as *Galen* observes there, by reason of the failing of the strength.

While the humour flowes violently, the greater veins are to be opened, so the nature of the place and situation of the parts permit it.

Because a quick and sudden Revulsion is made through the greater veins, and for the most part Derivation also, which may resist the celerity of the flux.

Chap. III.

Of Letting Bloud.

The viciousnesse of the humours is twofold, in quantity, and quality. That is called Plethora, this a Catochymia.

A Plethora indicates bloud-letting; a Cacochymia, purging.

This Theorem includes a very great Controversie concerning the indications of bloud-letting, which hath variously troubled the wits of Authors, and entangled them in many difficulties: From which that we may the more easily disingage our selves, we shall follow the principles laid in the former Section; where the nature of things indicating and things indicated is rightly stated, and they exactly distinguished from Coindicants and Correpugnants.

First therefore it is to be supposed, that we do here take bloud-letting for a species of evacuation, and a remedy to evacuate the bloud. Which being granted, we say that bloud-letting is indicated only by a Plethora or fulnesse, which signifies a redundancy of bloud, when as but one thing can be indicated by one thing, and the thing indicated ought to be contrary to the thing indicating: but to plenty of bloud the diminution thereof is directly opposed, which *Galen* acknowledges, while he teaches that bloud-letting is indicated by the multitude of bloud, condition of the strength, and youthful age. But when *l. de ven. sect.* and in many other places he sets down simply the foresaid indications of bloud-letting, that is the greatnesse of the disease, the good condition of the strength, and vigorous age, adjoyning them to plenitude, he doth not give them properly and strictly the name of Indications, as from that which followes shall appear.

1. One thing is only indicated by one thing, as hath been shewed *c.* 3 *sect.* 1. therefore bloud-letting cannot be indicated by three things.

2. Strength and age when they are referred to natural things, never can truly indicate, but only coindicate, as is above demonstrated *c.* 4. *sect.* 1.

3. The greatnesse of the disease, the law of contrariety being observed, which

ought to intercede between the indicant and the thing indicated, cannot indicate any thing but the greatneſſe of the remedy. And ſo purging being as great a remedy as bloud-letting, they are both equally indicated by a great diſeaſe, but not bloud-letting particularly. Which *Galen* ſeeing, 4. *Meth.* ſaith the greatneſſe of the diſeaſe indicates now purgation, now bloud-letting; by which is ſhewn, that the greatneſſe of a diſeaſe is not a true indicant of bloud-letting, becauſe it is not one thing, nor perpetual.

4. From the ſame law of contrariety, when bloud-letting is a kinde of evacuation; and that there ought a contrariety to intercede between a great diſeaſe and evacuation, but there being no contrariety, one thing cannot be indicated by another. Neither will it ſuffice to ſay they are contraries by accident, for true indicants ought to indicate of themſelves a contrary remedy.

5. There are many great diſeaſes, for which bloud-letting is not convenient; as a Hectick Feaver, and whatever are caus'd by emptineſſe, and therefore the magnitude of a diſeaſe is no true Indicant of bloud-letting.

Therefore we ſay that *Galen* makes the magnitude of a diſeaſe to indicate bloud-letting, not that it properly and truly does ſo, which ſome late writers endevour to defend, but that it is a ſign which ſhewes a vehement diſtemper in the bloud, as often as the diſeaſe proceeds from thence, and that viciouſneſſe of the bloud requires bloud-letting. Strength and age coindicate only, and are ſaid to indicate through a large acception of the word, as we have ſhewed above, that Coindicants are often by *Galen* termed Indicants. The magnitude of the diſeaſe indicates bloud-letting, conditionally that there is no other remedy through the abundance of bloud, for elſe the Plethora being abſent, the diſeaſe might be cured other waies, as by faſting, exerciſe, *&c.*

A Plethora, is either as to the Veſſels or the Strength.

A Plethora as to the Veſſels, is cauſed either when all the humours are equally increaſed, and is ſimply called a Plethora; or elſe when the bloud only redounds ſuperfluouſly, and is called a Plethora of bloud: when another humour exceeds the bloud in quantity, and exceeds alſo all the other humours, they alſo abounding above their juſt meaſure, it is called a Plethora of that humour.

Laſtly, when one humour exceeds all the reſt, they being equally poys'd, it is called a Cacochymia.

Cacochymia, is a vice in the quality, as the other is in the quantity; for bloud may be increaſed without a vice in the quality, though not other humours.

Plethora as to the Strength, is that which though it do not fill the veſſels extraordinarily, yet it oppreſſes the faculties of the body, eſpecially the natural, ſo that when it cannot be rul'd by them it degenerates into corruption.

Again of Plethora's, ſome are light, ſome heavie, ſome preſent, ſome future, ſome common, ſome proper.

Bloud-letting, is alſo convenient for Revulſion, Derivation, and to cool the whole body, not of it ſelf but by accident.

Bloud-letting of it ſelf drawes out a multitude of humours contained in the veins, but by accident it makes a revulſion, and derivation of the humours flowing to ſome part. It refrigerates alſo the body by accident, by drawing forth part of the hot humour, and giving a free tranſpiration to that which is left.

From the foreſaid Theorems may be eaſily gathered the ſolutions of all arguments, which are brought by many to prove that bloud-letting is not indicated by a Plethora. For in thoſe who have fallen from a high place, though there be no mani-

manifest Plethora present, yet they breath a vein because there is a Plethora as to the strength, for they being weakned by the fall, cannot rule the humours which before nature kept well in order while the party was in health; therefore is that bloud-letting, for revulsion of the humours that began to flow to the bruised parts. So in an immoderate flux of the bloud, breathing a vein is commended, not as it is an evacuation, but as it is a revulsory medicine. So in putrid Feavers, a vein is opened to cool the body, or because there is a Plethora as to the strength. For nature being delivered from part of the burthen by which she was oppressed, the more easily sustains and tames with lesse difficulty that which is behinde. Lastly, a light Plethora which may be cured by exercise, wants not bloud-letting; but that only which is more heavy, and produces, or shortly will produce some great disease.

Among those things which vindicate bloud-letting, the strength of the body obtains the first place, which if it be firm and lusty, doth well permit it, but if it be faint and languid, will not allow thereof.

The Strength is comprehended under a threefold number of the faculties, but especially in the vital faculty; for if from a big and equal pulse, and free breathing, it appear undiminished and lusty, it permits bloud-letting; but if on the contrary it appear weak and faint by the pulse and manner of breathing, it disswades bloud-letting. Though the morbifick cause or the disease it self do require this kinde of remedy: or at most perswades it to be done sparingly, and at at several intervals. But the faint strength is diligently to be distinguished from the oppressed strength. The strength is oppressed by internal causes, as obstruction, and abundance of humour, and then they are relieved by evacuation. They are dissolved and dissipated by most evident causes, as by the heat and malignant corruption of the air, by labour, watching, famine, or any immoderate vacuation, fiercenesse of pain, violence of the disease, and diuturnity likewise, and other such like; and then refreshing and renewing is rather to be used then evacuation. When the strength is faint and oppressed, the pulse is equall, but with this difference, for at the beginning of a disease when the strength is oppressed, the pulse is perceived to be little and almost buried, but when they are faint and languishing in the increase and vigor of the disease, with which the formentioned causes concur.

A vigorous age coindicates also bloud-letting. Which is in the middle between youth and old age, but childhood and old age allow not of it but in cases of urgent necessity, and that with extreme caution used.

Age neither coindicates nor is correpugnant, unlesse in respect of the strength, which in a childe and old man are so weak, that they can hardly sustain bloud-letting. For children have a soft, tender, and open body, which of it self is continually wasted and dissolved. And as for old men they want spirits and heat, and therefore *Hip. 4. de vict. rat. in morb. acut.* teaches that a vigorous age where the disease is great, and the strength not impaired, requires bloud-letting: whhom *Galen* following, 11. *Meth. c.* 14. *& l. de cur. rat. per ven. sect.* forbids to let bloud before the 14. year, and after the 70. which is to be understood of that more full evacuation used by the ancients; for a moderate bloud-letting which is but equall or inferior to the strength and fulnesse of humour every age can bear, if it be vigorous and lusty; for age is not to be measured by number of years, but by the constitution of the strength and habit of body. Which *Celsus* elegantly confirms *l. 2. c.* 10. *The Ancients*, saith he, *judged, that the first and last age could not brook this kinde of remedy, and did perswade themselves, that a woman with childe cured this way,*

would

would prove abortive. But experience afterward shew'd that there was no certainty in these things, and that there are other better observations by which the Physitian may inform his judgement. For it matters not what the age be, nor what is born in the body, but what the strength is; and therefore a strong childe, a lusty old man, and a healthy woman with childe, are safely cured. So *Rhasis* in a decrepit old age oppressed with a violent Pleuresie let bloud: and *Avenzoar* opened a vein in his childe not above three years old, and that with successe. And daily we see that children of four or five years of age are recovered from dangerous diseases by bloud-letting.

The quantity of bloud to be let, is judged by the greatnesse of the vice in the bloud; and so a great disease indicates the letting of much bloud, a moderate disease moderate bleeding, a little one little.

The quantity the strength of the patient coindicates, which if they are lusty, then he may safely bleed as much as the disease requires; if weak, lesse; if very weak, not at all.

In a great distemper of the bloud, the ancients were wont to let the patient bleed to swouning: which is not to be understood of those who are afraid of bleeding, or if it happen through some other cause beside that extraordinary bleeding; but when it happens only by reason of the evacuation; such a kinde of bloud-letting as this they used in great inflamations, burning Feavers, and extreme pains. And *Galen* affirms that he hath found by experience, that if in burning Feavers the patient bleed to swouning, that presently the whole habit of the body is cooled, and the Feaver extinguished: and that many by loosnesse and sweating have been clearly restored to health. But this evacuation to swouning in our time is little in use; and by the vulgar blemished by the name of rashnesse. And therefore it is best to stop, and to draw as much bloud as would bring the patient to swoun at two or three times without any fear of swouning, and lesse hurt to the natural strength.

Causes also external and internal coindicate the quantity of bleeding.

The internal causes, are the temperament, habit, and age.

A hot and moist temper endures more plentifull bleeding, then a cold and dry.

An extenuated, soft and slender habit of the body cannot endure a great evacuation of bloud; but on the contrary, a fleshy, thick, and firm.

A very fat habit of body very hardly sustains bleeding.

Though such a habit be not subject to dissolve, yet because it hath narrow and slender vens, which when they are emptied, the fat easily straightens, there is danger lest it extinguish the natural heat, and therefore is prejudiced by bleeding.

A youthful age endures more bleeding, then childehood or old age.

The external causes are the Countrey, season, posture of the heavens, vacuation suppressed, or else immoderate custome of diet, manner of living, or evacuating.

In a hot and dry Countrey men must bleed lesse.

Because such a Countrey consumes much of the natural heat, bloud, and spirits, whence the strength is consumed, and lesse quantity of bloud is left in the veins.

A cold and moist countrey, endures more bleeding, lesse that which is most cold; but a temperate Countrey endures a larger then any.

A cold and moist temper of the air, keeps in the humours and the natural heat, and dissolves them not, but in a very cold countrey the bloud being as it were congealed, hardly gives way to evacuation, then the internal parts if they remain destitute of their heat, are in danger to be extinguished by the ambient cold.

As

As to the seasons of the year, the Spring permits most bleeding, next Autumn, then Winter, least of all Summer.

In the most hot and most cold posture of the heaven, the bloud is to be sparingly let forth, in a temperate more plentifully.

Any accustomed evacuation suppressed, requires a larger emission of bloud.

A voluntary evacuation that takes not away the matter of the disease, doth not exclude bleeding, so the strength be not much impaired thereby; but in respect of this, the bloud is to be let out more sparingly, and the evacuation to be suppressed, if it will more impair the strength.

Spontaneous evacuation, if it bring away the morbifick matter, if it do ease the patient, and is able to void as much as you require, you must then leave it to nature, if that be not able, you shall vacuate so much bloud, as that both evacuations joyned together may be able to do the work.

They that live frugally and sparingly, either out of custome, or by reason of some disease, are more sparingly to be let bloud, then those that live more intemperately.

Those that are accustomed to bleeding, bear it with lesse danger, then those who are not accustomed to it.

In such diseases as require bleeding, there you must let bloud at the beginning. The time of letting bloud is shewn by the presence of those Indicants, that require such a remedy: for in the beginning of a disease those Indicants do chiefly concur, in respect of themselves, and of the strength which then is more vigorous, also because nature in the progresse of the disease, being intent upon concoction and its contention with the disease, is not to be called away from her work.

If the beginning of the disease be omitted, or that then sufficient quantity of bloud hath not been taken away, it is to be let forth at other times, if the signs of fulnesse and crudity still appear, and the strength can bear it, and that other coindicants concur, or at least hinder not.

Among those things which forbid bleeding at the beginning of a disease and at other times, crudity of the stomack is not the least, or the inconcoction of the meat in the first vessels.

This precept is propounded by *Galen*, *9. Meth. c.* 5. therefore unlesse the distemper of the bloud be very vehement, bloud-letting is to be deferred, till those humours be concocted, lest being drawn to the liver they should beget obstructions, and should do more harm then bloud-letting could do good.

In those diseases where there is either a certain remission or intermission, Bloud-letting may be used either ie the remission or intermission. In the fits and exasperations of Feavers, there is the greatest conflict of nature with the disease, at which time nothing is to be stir'd, nor is the strength required for the conflict to be weakned by bleeding, which is elegantly expressed by *Celsus c.* 10. *l.* 2. in these words: *If a vehement Feaver urge, in the very vehemency thereof to let bloud, is to kill the man.* When an affection urges vehemently, a vein is to be opened at any hour, but in those that intermit, the fittest time to let bloud is the morning, two or three hours after Sun-rising.

For then the meat eaten the day before is well concocted, and the strength is more vigorous: also in the morning the bloud is more full of power and is more thin and apt to flow.

Chap. IV.

Of Purgation.

Purgation, *is an evacuation of the humours peccant in quality.*

This definition is proposed by *Galen, Comm. in 2. Aph. sect.* 1. which that it may be rightly understood, you must know, that by vice of the quality is not meant a meer distemper; for to that alteration only were sufficient; but rather a Cacochymie, or a redundancy of evil humours. Of this sort are all excrementitious humours, which being mixed with the bloud are contain'd in the veins or without them: but those are of two sorts, others natural, others preternatural. Natural, are those which are generated according to nature, as sweet flegm, choler, melancholy, and the serous humour; which if they are generated in due proportion and quantity, need not any vacuation; but if they abound in greater quantity, are to be purged out, but the excrementitious humours which are preternatural, are those which are produced contrary to nature; as yellow, green, eruginous, glasteous, and black choler; as also sharp and salt flegm; which humours when they ought by no means to be in the body, the least quantity of them breeds a Cacochymia, and indicates purgation, if it cannot be removed by diet, exercise, and lighter labours.

But to every species of the peccant humour there ought to be corresponding a proper species of purging medicine. And so for flegm, medicines that purge flegm; for choler, medicines purging choler; for melancholy, things that purge melancholy; for the serous humour, things that purge aqueous and watry humours; and for mixt humours, mixt medicines are to be used.

Purgation is coindicated by the strength, temperament, habit, age, sex, manner of living of the patient, and by the state of the air.

In all purgation it is necessary that the strength of the patient should be very lusty or moderate.

The strength is something impaired by purging; and therefore if it be very much weakned, purging is not to be attempted.

Hot and dry bodies, as also cold, whether they be moister or dryer, endure purgation very hardly; hot and moist, more easily.

Those which are endued with a hot and dry temperament, by purgation may be easily heated, rarifi'd and dry'd; and also fall into convulsions, if the purgation be overmuch. Cold and moist, and cold and dry, have a faint heat, and little spirits, which are easily dissipated by purgation; but hot and moist have a greater heat to resist the force of purging: a thin, tender and loose habit is easily dissolv'd, but a fleshy and well compact tolerates purgation; but a fat habit, not so well.

Fat people are diligently to be distinguished from fleshy, for although both may endure purgation, yet much lesse the fat, because they are colder, and have lesse spirits, and narrower vessels.

Boyes and old men, require gentler medicines, in their middle age more forcible.

Women with childe, in the 4, 5, and 6 moneth upon urgent necessity and with great caution may be purged.

This is to be taken from *Hipp. Aph.* 1. *sect.* 4. and it agrees with reason. For when nature stirred up by the purging medicine, endevours to expel the excrementitious humours, and the disease it self; it shakes the womb, and expels the birth,

birth, unlesse it stick very close; but if when she is with childe she is troubled with a disease that requires purgation, it must be used but with milde and gentle remedies; and the more confidently in those moneths wherein the birth is more strongly bound to the womb, which is in the 4, 5, & 6. moneth. For as *Galen* elegantly saith, the adhering of the birth to the womb is like the hanging of the fruit upon the trees. For the fruit at first is held on with more tender stalks, and therefore more easily fall off when the wind shakes them; but being grown bigger they are not so easily loosened from the boughs: and again, when they are ripe they fall off of themselves. So the birth at the first beginnings of its formation, and when it comes to perfection, are more easily shaken forth, but in the middle time they cling faster to the womb.

The particular nature of the patient is diligently to be observed, for some are purged easily and plentifully by weaker medicines; others are hardly moved by stronger.

Those who are accustomed to purgations more easily endure them, but in those who are seldome or never purged, we must proceed more cautiously.

In a hotter or colder air purgations are more difficult, in a temperate more easie.

A hotter air weakens the strength and begets hot diseases, and therefore admits not purging, which impairs the strength. Therefore saith *Hipp. Aph. 5. sect.* in the dog-daies and before them 'tis bad purging.

The cold condenses the humours, and stops up the passages, rendring the body lesse fluid, which makes purging lesse successful. Therefore *Hipp. Aph. 47. sect. 6.* saith that purging is better in the Spring then at any time of the year.

The quantity of the purge is shewn by the quantity of the vicious humour; for it is all to be purged out, that the body may be freed. If the noxious humour be not wholly taken away, the disease is not cured; or if it appear cured, it is subject to a relapse. Therefore *Hipp. Aph. 10. sect. 2. Those things which are left in diseases, cause relapses*: but if but a little portion of that humour be left, by exquisite diet, by nature and the natural heat it may at length perhaps be overcome.

A small Cacochymie may be drawn all away at one time, if the strength be vigorous and the matter be concocted and thin; but if the strength be impaired, both a small and great Cacochymie is to be drawn out by degrees.

This Theorem is confirmed by that of *Hipp. Aph. 36. sect. 2. Those that eat bad meat, if they purge, they lose their strength thereby.* The reason is because they abound with many and vicious humours, and have little good juice, so that their weak strength is much wasted by a strong medicament; and then that sink of ill humours being mov'd by the purging medicins, sends stinking and ill vapours to the heart, stomack and brain, which do cause swounings, giddinesse, and other accidents: yet these humours are not to be left in the body, but to be purged out by degrees and at several intervals of time, and by Epicrasis without much agitation.

The most fit time for purgation, is at the height or declination of the disease, in which the humours are concocted and prepared for evacuation.

This rule is founded on *Hipp. Aph. 21. sect. 1. Physical cures belong to concocted, not to crude things.* But in the declination of the disease, or at least at the end of the height thereof they are perfectly concocted. This Theorem is to be limited with this restriction, *viz.* if nature do not perform evacuation of it self. For when the humours are critically evacuated, there must be then no purgation, unlesse the crisis

be imperfect. For then the reliques of the morbifical matter are to be drawn forth by medicines, leſt they breed a relapſe.

At the beginning of diſeaſes purgation is to be uſed, if the humour be too ſuperfluous and ſwell.

The humours are then ſaid to ſwell, when they are agitated with violence, and provoke and pain the body. But this ſwelling is proper to cholerick humours, which are hot, thin, and acrimonious, and moſt ſubject to breed acute diſeaſes. But thick and cold humours which generate long diſeaſes, are not wont to ſwell ſo much. If therefore ſuch humours ſwell, it is lawful to purge them forth before they are concocted; for it is to be fear'd that the ſtrength may be impaired by the agitation of the matter, and that the humours ſtirred up by that violence may fall upon ſome principal part: but then thoſe humours are eaſily purged, although they be not concocted, becauſe being thin and movable, nature being alſo excited by them, and provoked by the purging medicins, lends her helping hand to evacuate them her ſelf. So that the patient receives more good then harm by the purging away of thoſe ſwelling humours, before they are concocted. Whence, *Hipp. Aph.* 10. *ſect.* 4. *It is good to adminiſter cure in acute diſeaſes, if the matter ſwell, the ſame day, for to delay longer in ſuch diſeaſes is evil; but this is to be performed with caution and premeditation, for the moſt part the matter ſwels not*; as in *Aph.* 22. *ſect.* 1. and as the ſame *Hipp.* teaches in *Aph.* 24. *ſect.* 1. *In acute diſeaſes and at the beginning ſeldome uſe purgations, but with premeditation*: for purgations by their heat, and acrimony increaſe acute diſeaſes, and acute diſeaſes are ſooner waſted by a critical evacuation then by purging. But thoſe Criſes are not raſhly to be diſturb'd, but rather if there be any hope of them, abſtain from purgation, and means rather are to be conſidered of and prepared for that evacuation. The ſtrength alſo and other coindications are to be obſerved: as alſo the body it ſelf, if the paſſages thereof are open and free from obſtructions, and that the patient do not abound with a multitude of thick and crude humours, and alſo that he be not oppreſſed with any inward inflamation, which would be worſe by purgation.

Humours that flow to the more noble parts, or thoſe parts that have a relation to the nobler parts, or that are about to flow thither, are to be purged away in the beginning of a diſeaſe.

Some deep wounds, ulcers, inflamations and other tumours, head-aches, and other affections of other parts, if ill humours do abound in the body, no doubt but purgation is very convenient, if there be nothing elſe to hinder it, that the matter cauſing the affection may be diminiſhed and called from that part, which is uſed in ordinary practiſe, and confirmed by *Galen*, in his book of curing by Phleb. *c.* 8. *In thoſe*, ſaith he, *who have any part vehemently afflicted, or by any other way hath a flegmone growing on, if we ſuſpect it will be very great, we begin to cure it by evacuation, purges, or breathing a vein, as we ſee which is more convenient then the other.*

When the humours abound in quantity, and therefore cannot be well concocted, part of them is to be purged away, that nature may the better deal with the reſt.

Becauſe this kinde of purgation diminiſhes the morbifical matter by taking away ſome part thereof, therefore it is commonly called *Minorative*, which in our times is for the moſt part uſed in all diſeaſes.

Neither are the dangers objected by the enemies to minorative purgations inſtituted in the beginnings of diſeaſes very formidable: for they fear that the matter

being

being moved and not evacuated, may cast the patient into any evident danger, and that the humours bad and good should be mingled together.

Which dangers are most easie to be avoided, if more gentle medicines, according to common practise, be used, which purge the first region with little or no commotion, and bring away the morbifick matter disposed to evacuation. Now if these purgations were lesse used in the times of *Galen* and *Hipp.* which are administred in the beginning of diseases, the reason was, because in those times only vehement and malignant medicines were applied; those more milde and gentle medicines, which to us are familiar, being not known to them, which may be used without any trouble. Therefore *Celsus* in a Feaver forbids purging, because the purges of those times by their fiery heat and acrimony did increase the heat of the Feaver: And for that reason *Hipp.* in the summer did abhor these medicines, as *Aph. 5. l. 4. In the dog-daies or before, purgation is naught*; because the humours are burnt up at that time, and cannot brook the acrimony of the purging remedies; and for the same reason we in our ages do avoid those hot medicaments which are called *diagridiate*, in those hot seasons, and in Feavers; but gentle ones which are a little hot, and for the most part temperate, nay some of them cooling, both in continual Feavers and in their beginnings, in the summer, and in the dog-daies, are by us used successefully. Notwithstanding 'tis most certain that the ancients in the beginning of diseases permitted purgation, especially in diseases not feaverish, and in which there was not a crudity of humours arising from putrefaction. As *Galen 4. devict. rat. in morb. acut.* saith that he hath exhibited a Purge sometimes on the second, sometimes on the fourth, sometimes on the fifth day. And again *lib. de comp. med.* sometimes without concoction, or any other precedent preparation, he purges both kindes of choler, and flegm in an Alopecia, as also a little after in many diseases of the head. Lastly, 13. *Meth.* he relates, that many who have had an inflamation in the eyes have been in one day cured by purging through the lower part of the belly.

In diseases that have exacerbations and paroxysms, it is more safe to give a Purge in the day of remission or intermission.

For when the disease troubles lesse, the strength is more vigorous, and endures the vehemency of the disease. Notwithstanding in the fit, evacuation is made more readily, because then the humours are in motion, and as it were swelling, and so more disposed to be carried away. And therefore Empericks are wont to cure intermitting Feavers, by exhibiting medicaments that evacuate by vomit or stool, or both. But because nature is much afflicted this way, therefore a prudent Physician ought seldome, and with very great caution to try such kinde of curations.

To a free elective purgation, a temperate day, the South rather then the North wind blowing, with a benevolent position of the stars, is most conducing to health.

A Southern constitution of the air renders the body looser, and the humours more fluid, which makes purgation more successeful. But that the stars are to be observed in purging, the Astrologers do teach; and you may see all their precepts numbred up together into one head by *John Antonius Maginus*, in his Book *of the lawful use of Astrologie in Physick.* And first you must observe not to purge in a conjunction of the Moon and the Sun, nor in an opposition. For although this precept with others of the Astrologers be derided, yet it is observed, that at those times purging proceeds not so successefully, as at others; and therefore in an elective purgation, 'tis better to avoid those Aspects.

The place through which purgation is to be made is twofold, by vomit and stool.

And it is discovered by the place and nature of the humour.

Humours residing in the stomack are commodiously purged away by vomit, as also not seldome those which are contained in the spleen, hollow of the liver, and in the pancreas. But those which reside in the lower parts, or parts remote from the stomack, are purged away through the belly.

Evacuation by vomit, is most convenient for the humours contained in the stomack, yet 'tis certain that the parts near the stomack, as the liver, spleen, and pancreas are sometimes evacuated by vomit; so that sometimes most obstinate humours breeding long diseases, are successfully evacuated this way from those places, which cannot be eradicated by other remedies.

Thin, hot and cholerick humours by vomit; flegmatick, and melancholy, and thick humours are more easily purged by stool.

Cholerick humours fly upwards being light; flegmatick and melancholy fall downward, because they are heavie.

The place through which purgation ought to be made, is coindicated by the time of the year, habit of the sick, nature and custome.

In the summer 'tis more convenient to purge upward, in the winter down.

This precept is set down by *Hipp. Aph.* 4. *sect.* 4. and the reason of it is, because yellow choler, and hot humours abound in the summer; and are more easily carried upwards; but in the winter the contrary happens. Neither is it repugnant to this opinion which *Hipp.* observes *li. de Salub. diæt.* that in the six winter moneths vomiting is to be used; For that is explained by *Galen* to be only understood of flegm, which is collected in the stomack, for that is to be purged away by vomit, but the rest of the body by stool.

Those who are of a slender habit, are more easily purged upward, but thick and fleshy people downward.

This Theorem is taken from *Aph.* 6. & 7. *sect.* 4. and the reason is, because lean people are more cholerick, fleshy people more flegmatick. Beside that these through the weight of the caul and muscles of the abdomen, cannot vomit but very laboriously and violently, and with much danger of breaking some vessel in the breast.

Those who have a disposition prone and easie to vomit, by these vomiting may be easily endured; but those that vomit difficultly must not be permitted to vomit.

Those that are not prone to vomit, cannot be made to vomit but by very vehement medicines, which endangers a ruption of some vein in the breast through straining.

Those who are accustomed to vomit, may the more easily be purged by vomit; but they who use it not, difficultly.

Vomiting was much used among the Ancients, for which cause they endured more vehement vomitories. But in our times that custome is out of use; and therefore the greater wariness is to be observed in giving vomits, and good heed must be taken to know when vomiting may be used, when purging, and which is most commodious. For nature her self hath made a way through the guts, to the ejection of excrements; and therefore hath made them lesse noble, and indeed the way is shorter and straighter from the whole body to the guts, then to the stomack, and many more and greater veins are carried to the guts then to the stomack.

Chap. V.

Of the preparation and concoctions of the Humours.

The noxious humours before they be purged, are to be prepared and concocted.

The preparation of humours is made by art, concocted by nature.

Concoction, is the alteration of the substance into a better condition, which is done by the force of heat.

In this concoction differs from alteration, that alteration changes the qualities, and concoction the substance.

This is twofold, the one is called pepsis, *the other* pepasmos.

Pepsis *is that true and proper concoction, which changes the nourishment into the substance of our bodies.*

Pepasmos, *is when a vicious and putrid humour, which cannot be changed into the substance of the body, is changed into something better and more convenient to nature, as into purulent matter, or something like to it.*

Tumours arising from bloud are changed into true purulency, as also the corruption which is generated in ulcers. But putrid humours which are contained in the veins, are not converted into true matter, but into something else of a like nature, an example whereof is seen in the sediment of Urine.

The preparation of humours which is made by art, respects either the humours themselves, or the waies through which those humours are to be purged.

Hot humours are to be refrigerated, cold humours are to be heated, thick humours are to be cut and attenuated, glutinous and clammy humours are to be cleansed, thin ones to be thickned.

Though many imagine contrary to *Avicen*, that the humours the thinner they are, are so much the more easily purged, and are never to be thickned; yet it is more agreeable to reason, that they should be moderately thickned. For as chaffe is blown here and there by the winde, so saith *Avicen*, the cholerick humour through its lightnesse, being agitated here and there, is not easily brought away by medicaments, or expelled by nature, till it be moderately thickned.

The way through which the humours are to be purged, must be made open and free, and the stomack also to be without any nauseousnesse, lest it should be averse to the medicament, and vomit it up again. The guts must be also emptied, lest they resist the course of the humours, and the obstructions of the bowels must be opened.

Any preparation which is made by art, and help of remedies, is used not only to help purgation, but also to promote concoction of the morbifick humour.

Because the morbifick humour being weakned by the preparing remedies is more easily overcome by our heat, and brought to a Pepasmos; therefore these preparing medicaments, by the Physicians, though improperly are called concocting, because they conduce to the alteration and concoction of the morbifick humours.

Chap. VI.

Of Evacuation by Urine.

By Urine are evacuated the ſerous and cholerick humours, and the thinner flegm from the whole body.

Though in the ordinary works of nature a watry humour is only evacuated, as the ſuperfluity of drink; as alſo the gibbous part of the liver, reins, bladder, and the veſſels ſerving to them are purged more commodiouſly thoſe waies: Yet ſometimes the whole body evacuates ſome thinner humours by thoſe paſſages, as we ſee in Criſis performed by Urine with good ſucceſſe. And therefore the Phyſician muſt promote theſe evacuations with fit remedies.

In thoſe diſeaſes chiefly, whoſe matter is to be evacuated by degrees, and by little and little evacuation is to be performed by Urine.

Diuretick medicines evacuate the body but by little and little, and therefore they profit not ſuch in diſeaſes that want preſent evacuation.

When evacuation is performed by Urine, heed is to be taken, leſt the humour which is to be brought away be much and plentiful; for it is to be feared that while the humour is compelled to the narrow paſſages, it ſhould obſtruct them by its redundancy, and ſhut up the paſſages both to themſelves and others.

Therefore the Phyſicians before they uſe Diureticks, bring away a good quantity of the peccant humour by ſtool, and afterwards evacuate the reliques by Urine.

If the reins, bladder, or other veſſels deſtin'd to this uſe are inflamed, or any ſuch like way affected, vacuation by urine is not to be uſed.

Becauſe it is againſt reaſon to bring the humours to the part affected and weak.

Chap. VII.

Of Evacuation by Sweating.

By Sweat may be purged forth, whatever thin humours or that are ſubject to be made thin are contained in the habit of the body and veins; or may be brought to thoſe parts.

In this evacuation, nature and the operation of the Phyſician ſeems contrary. For nature critically diſſolves only acute diſeaſes by ſweat, but the Phyſician endevours the cure of chronical diſeaſes by this evacuation. The reaſon is, becauſe ſweat cannot be provok'd by art without heating the body, which is moſt dangerous in acute diſeaſes; but in long and cold diſeaſes it is profitable, becauſe thereby the flegmatick humours fixed to the parts, are attenuated, and by little and little brought away.

That

That evacuation which is made by sweat, the strength impaired, a hot temper and chalerick, and multitude of matter will not permit.

By the use of Sudorificks, the pores of the skin are opened to the great damage of the spirits and strength. By the same sudorificks the body growes hot, so that it is to be feared, lest the hot distemper should cast the patient into a Feaver, or Consumption. Lastly, while the matter is much, being agitated all together, and vehemently attenuated, it is to be feared that it should fall upon some principal part, or shut up the pores of the body, which causes putrefaction, tumours, and other diseases. And therefore it is the best way before the provocation of sweat, to diminish the morbifick matter with universal purgation.

THE THIRD SECTION of the FIRST PART OF *THERAPEUTICKS.*

Of Indications from the Disease.

CHAP. I.

Of Indications from a similar Disease.

Every distemper is to be corrected by alteration, which is to be performed by Contraries.

So a hot distemper points to a cooling Medicament, a cold distemper a heating Medicament; a moist distemper, driers; a dry, moistners: so in compounded distempers, hot and moist diseases, require cold and dry medicins; hot and dry, cold and moist; cold and moist, hot and dry; cold and dry, hot and moist.

A more intense distemper and more remote from the natural temper of the body, wants stronger medicines; a more remisse, and lesse remote from the natural temper, requires more remisse medicines.

In correcting any distemper, the part affected must be accurately considered, the remedies applied must be appropriate and specifical, having a peculiar affinity with the disease, and agreement with nature.

So when the brain is to be heated, we must not apply indifferently any sort

sort of heating medicines, but those which are called Cephalick; to the breast, those medicins that are fit for the breast; to the heart, Cordials; to the liver, Hepaticks; to the spleen, Spleneticks; to the womb, Hysterical; and so medicines appropriate to any part are to be used, endued with those first qualities which the distemper of these parts requires.

Chap. II.

Of Indications from an Organical disease.

Of an organical disease, there are many sorts, viz. *in conformation, magnitude, number, and situation, whose several Indications are distinctly to be propounded.*

Diseases of conformation are in figure, in passage, cavity, roughnesse or smoothnesse.

The figure is viciated, either in the womb, or after the birth.

That error which is contracted in the womb, may be omitted as incurable.

That which happens afterward, if it be of a long time, is hard to be cured; if lately done, much more easily.

If the depravation of the figure be produced by an afflux of humours, or by any other cause external or internal, by the removal of those causes, it will be amended.

So the depravation of the figure, which in preternatural tumours, and the faces of leprous persons, and such like appears, it is to be restored by the revulsion, derivation, or evacuation of the humours causing those effects.

If the depravation of the figure happen without the afflux of humour; as in those who have crooked legs, or bunch-backs, or their ribs one higher then another: In children it is to be amended by often stroking, then by lying on the opposite side, and by swathing and pasteboards. In those that are more grown, by softning medicines to be mollified, and then to be contain'd in its due place by the means mentioned. But if disfiguration happen by some fracture, or ill bred callosity, caused by the undue collocation of the member, the callous part is to be cut away, that it may be made to grow more handsomely, if it may be done without danger, that is, in a strong well disposed and temperate body.

Diseases of the cavities and passages, are dilatation, astriction, and obstruction, which are wont to be produced by innumerable causes, and according to the variety of causes, they have many sorts of Indications, which cannot be handled but in a particular method.

Roughnesse and smoothnesse that are preternatural, proceed from many causes, both internal and external, wounding, gnawing, cleansing, drying, and the like, the removal of which must be in a particular method.

Diseases in number, are only to be cured by nature, for that which is wanting is either flesh, bone, or some other part which the Physician cannot add; yet he may help the generation thereof removing the impediments which delay nature in her work. As also when the members are lost which cannot be recovered be nature, yet the Physician may suborne something in stead thereof, which may supply in a manner the use thereof; as when an iron arm or a wooden leg is put in the place of that which is lost.

Whatever exceed in number are presently to be cut away, so it may be done without danger, and to the advantage of the patient, but as there is very great variety in this par-

this particular, so the way of cure is manifold, yet all is performed by iron, fire, or medicament.

Magnitude increased, is to be cured by diminution, diminished by addition, almost by the same instruments, by which number, increased or diminished its usually cured.

When the parts lose their situation and natural connexion, they are to be put into their former place, by that method which is set down in the curing of dislocations and burstings.

Chap. III.

Of Indication from a common Disease or solution of unity.

Every solution of the Continuum requires an uniting, which is perfected by nature, whose servant the Physician is, whose chief duty in that office is contained under four heads.

1. That he be cautious that nothing fall into the part affected, that may hinder conglutination.
2. That the extremes of the dissolved unity be rightly joyned together.
3. That being joyned, they may be rightly kept together.
4. To forward their uniting, and mutual adhering one to the other.
5. That the symptomes which may happen may be prevented and corrected.

The practise of which precepts is shewed in the cure of wounds, ulcers, and fractures.

THE FOURTH SECTION OF *THERAPEUTICKS.*

Of Indications from the Strength.

Chap. I.

What it is that Indicates and Coindicates Diet in sick People.

THE Strength in whatsoever state of the body indicate their own preservation.

But that conservation is perfected by diet, which as it is properly indicated by the strength, so it is coindicated or prohibited by the disease, or the morbifick cause.

As it is said before, A remedy as it is the instrument of curation, is indicated by things preternatural, and coindicated by things natural: So now it is certain, that nourishment as it is the instrument of conservation, is indicated by things agreeable to nature, and coindicated by things averse to nature.

But the strength is the faculties themselves, or rather the instruments of them, that is, the vigour of heat, spirits, and the solid parts; which being firm and vigorous, the strength is vigorous; and so on the contrary: since therefore the conservation of the solid and spiritous parts, is by the benefit of the nourishment, therefore the use of it, which is called Diet, is said to preserve the strength. But the disease, or the morbifick cause doth coindicate or forbid the use of nourishment, as that may be increased or fomented by it; or nature intent upon Pepsis, may be called away by Pepasmos; for when nature is buried in the concoction of nourishment, she is drawn away from concocting the morbifical humour, whence upon consideration of the disease, regard must be had to the measure of dieting.

Chap. II.

What those things are that concern Diet.

In every state of the body, Diet, or reason of dieting, consists in six things not natural, but especially in diseases regard must be had to meat and drink.

Meat and drink, as they are the true objects of nourishment, so are they the true instruments, which preserve the strength; but other things which are not natural, are only the helping causes, which being well or ill disposed, produce good or ill nourishment from the meat; for sleep and watching, if they are excessive, hurt the heat and spirits, if they are within the limits of health, they preserve them and forward concoction; immoderate sleep cools and moistens the brain, so that the natural heat wastes, the animal spirits are sunk in moisture, and the animal faculty is injured, with which the vital and natural do easily sympathize. Over much watching dissipates the heat and spirits; but moderate sleep, and moderate watching, preserve the heat and spirits, and so forward concoction. So motion and rest, if moderate, excite the natural heat and cherish it: repletion and emptinesse also, being orderly, makes a very good concoction. But passions of minde, if they be moderate, make the natural heat vigorous, and a good concoction; but the excesse of them dissipates the natural heat and spirits, or choaks them. Lastly, the ambient Air, being temperate, recreates all the functions of the body, but intemperate, very much prejudiceth them, and hinders the cure of diseases.

Chap. III.

What are the kindes of Diet, and which are most sutable in Diseases.

Diet is threefold, full, moderate, and sparing.

Full, is that which not only preserves the present strength, but increases it. And that is threefold, the one most simple, which is convenient for the sick, according to Hipp. *and consists of whole barly-broth; another fuller and thicker, which consists of fish and eggs; the last fullest of all, which consists of more solid flesh.*

Sparing diet, is that which preserves the strength, though something impaired. This is threefold, one simply so, which is by the juice of unhusked barly; another sort thinner, which consists of water and hony; and the last most sparing of all, which is meer fasting.

Moderate diet, is that which preserves the strength in the same condition, and was heretofore by bread in pottage, or flesh of pullets.

Now a dates the diet of sick people is very different, and never any thinner prescribed then broths of pullets and chickens. The moderate consists of ptisans, panada's, &c. *And lastly, the fuller sort of diet consists in the use of meats of good nourishment and solid, as partridge, capons, doves, and others of the same nature.*

The diet of sick persons is to be proportioned by comparing the strength with the disease. For by how much the more nature is imployed in the expelling of the disease, so much the sparer diet is to be observed as the strength is able to bear it, and

the lesse work nature hath to do, a more plentiful diet may be offered.

In long diseases a moderate or full diet is requisite, and so much the fuller, by how much the disease is longer.

For the strength is to be preserved that it may endure, and prevail in the expelling of the whole disease, which because it may last long, it is not to be diminished by sparing diet.

Acute diseases require a slender diet; and by how more acute the disease is, so much the slenderer ought the diet to be.

In acute diseases, nature is imployed in expelling the disease, and therefore as little as may be to be disturbed by nourishment, and therefore a thin diet is sufficient; which although it do a little impair the strength, yet it is able to bear up the whole course of the disease which is very short.

If the strength is not so well known to the Physician, as to prescribe a just diet, it is better to prescribe an over full then an over sparing diet.

This precept is taken from *Hipp. Aph.* 5. *sect.* 1. *Through a slender diet the Patient growes faint, which harms them more; for what error is committed, is greater in a slender then a fuller diet: and therefore an exact diet is dangerous to persons in health; for that by reason thereof, they bear errors in diet worse. And therefore a very exact and slender diet is more dangerous then the fuller diet.* Yet *Hipp.* seems to contradict himself in this opinion, 2 *de rat. vict. in Acut. For the increase of nourishment*, saith he, *lesse care is to be taken, for it is better to diminish it.* But this we may reconcile, by saying, that in the first *Hipp.* speaks of the form of diet; which if it be more sparing then is requisite, doth more harm then that which is fuller; but in the latter he speaks of the quantity, in which the same form being observed, 'tis better for us to be more sparing.

Chap. IV.

Of the quantity of Diet.

The quantity of Diet is threefold, high, indifferent, least of all; which may be used in all sorts of diet, full, moderate, or sparing.

As in Medicaments, there is a threefold quantity or dose, *viz.* highest, midling, and lowest, which are considered in more vehement, more milde, and more indifferent ones, so is it in diet. And after the Physician hath judged, whether a thin, moderate or full diet be most convenient for the disease proposed, then he ought to observe, whether they ought to be administred in the highest, lowest, or midling quantity; which he may distinguish by the acuteness of the disease, or the greater or lesser strife of nature with the disease.

In the beginning of a disease the diet most requisite, is to be given in a full dose.

For then nature contends not so much with the disease, nor is yet imployed in the concoction and evacuation thereof, and therefore can make use of more nourishment.

In the increase of the disease, diet is to be given in a moderate quantity.

For then nature is employed in the concoction and evacuation of the morbifical matter more then in the beginning.

In the height of the disease the slendereſt diet is to be given.

For

For then the contention of nature with the disease is most vehement, and she is very busie in the concoction and evacuation of the matter, and not to be called away from her imployment.

If the strength be impaired and the morbifical matter very oppressive, the nourishment is to be given in a little quantity and often.

In respect of the cause which is very vehement, little nourishment is to be given, lest the morbifick cause be increased. But in respect of the strength it is requisite often to reiterate it, lest the strength be deficient; where there is great prudence required in the Physician, who ought to observe all things indicant and coindicant, or prohibiting, which *Hipp.* notes, *Aph.* 17. *sect.* 1. *Regard is to be had to whom we may give once or twice, more or lesse, and by intervals, wherein some respect is to be had to age, countrey, and custome.*

Chap. V.

Of the time of giving Victuals.

In continual Diseases that are not differenced by accessions, or exacerbations, Diet is to be given according to custome at that time chiefly at which the patient was wont to eat before.

In diseases that have accession or exacerbations, nourishment is to be given in the intermissions.

For when the force of the disease is most vehement in the fit, and the contention of nature with the disease most fierce, then nature is not to be burdened with aliment, nor to be diverted from its work to the concoction of meat.

Besides, nourishment given at that time is not concocted but remains raw, and is corrupted by the putrid matter which is agitated in the fit, whereby the disease is increased, and evil symptomes generated.

When there is the greatest losse of strength, though in the fit, nourishment is requisite to be given.

If a Feaver proceed from a black and acrimonious humour kindled by the Sun, by fasting or labour, and the patient be of a spare habit of body, of a hot and dry temper, especially in the summer; nourishment is to be given either in the fit or a little before.

For if such persons do abstain long from meat, 'tis to be feared, that the Feaver may wax more furious, and that a Syncope, or Convulsion, or Hectick may be generated. As *Galen* teaches, 10. *Meth. c.* 3.

THE

THE SECOND PART OF *THERAPEUTICKS.*

Of the Physicians Instruments.

The PREFACE.

THE whole work of the Physician is perfected by three sorts, Instruments, Diet, Chirurgery, and Medicaments.

The vast company of remedies which the Physician uses either to the cure of present, or preventing imminent diseases is comprehended under these three Instruments. Of which, the *first*, prescribes the right order of Diet, according to the legitimate use of the six not natural things. The *second* is concerning those things which are performed by the hand of a skilful Artist in the body of Man. The *third* comprehends all those sorts of Medicaments, by which noxious humours are prepared and purged out, the distemper of the parts amended, and their strength increased; and by which all other Indications of health are brought to passe.

Of Diet and Chirurgery, for as much as belongs to Physical Institutions, we have treated sufficiently in the General Method of Curing. *It remains that we diligently search into the Pharmaceutical part.*

Pharmaceuticks, are that part of Medicine, which contains the faculties, matter, vertues of Medicaments, with the manner of compounding them. Which that they may be distinctly handled, this whole Tractate shall be distributed into two Sections.

In the first, *the matter, vertues, and uses of Medicaments shall be expounded.*
In the second, *shal be taught the manner of compounding them.* THE

THE FIRST SECTION of the SECOND PART OF THERAPEUTICKS.

Of the Matter of Physick.

The PROEME.

A *Medicament out of* Gal. 1. de simpl. med. facult. c. 1. 3. *is that which hath power to alter our bodies, and to reduce them from a preternatural estate to a natural.*

It differs from Poyson and Nourishment; because nourishment is overcome by our body, and changed into the substance of our body; but poyson corrupts it.

And therefore a Medicament is as it were a medium between Nourishment and Poyson, which is neither overcome by our body, nor yet corrupts it, but only alters and changes it.

All Medicaments are commonly divided into simple and compound.

Simple, are those which are suggested to us by Nature and have nothing of Art mixed with them: and they are taken from three fountains, Plants, Animals, and Minerals.

Compounds, are those which are composed of several simples mixed together, or which by art are changed into another form.

Both of these are again twofold, internal, and external.

Internal, are those which are proper for the cure of internall affections.

That no one may be scrupulous of our reckoning these which are outwardly applied in the Catalogue of internal medicines; let him understand that we do here call not only those internal which are applied inwardly, but those which are applied outwardly, so they serve

ſerve for the cure of internal diſeaſes: which is done for the good of young Students, that to complete the ſame Indication, they may finde both the internal and external matter laid together.

Thoſe are external, which ſerve only to cure external affections.

And therefore this firſt Section is to be divided into *two parts.*

The *firſt* laies down the matter of internal Medicaments.

The *ſecond* contains the matter of external Medicaments.

THE FIRST PART of the FIRST SECTION, *Of the Internal Matter of Phyſick.*

The PREFACE.

IN the cure of internal Diſeaſes, the principal Indications reſpect either the morbifick cauſes, or the diſeaſes, or the parts affected.

The morbifical cauſes are for the moſt part various humours, which as they are peccant in ſeveral qualities, ſo they require ſeveral Medicaments endued with contrary qualities. Thus cold humours require hot medicines; hot, refrigerating ones; thin, incraſſating; thick, attenuating; corrupt, purging, and ſo of the reſt.

Diſeaſes ſometimes remain after the taking away of the cauſe, and require a peculiar curation by contrary remedies: as is fully explained in *the general Method of Curing.*

Laſtly, the parts require ſpecifical medicines to corroborate and alter; as Cephalicks, Thoraticks, Cordials, Stomachicals, Hepaticals; all which we ſhall ſet down in their order.

Moreover all this matter is taken either out of plants, roots, woods, barks, leaves, ſeeds, fruits, flowers, gums, reſins, liquors, juices, or from whole animals and their parts, as well living as not living, and excrementitious; and laſtly from Minerals which are earths concrete juices, ſtones, and metals, out of all which ſeveral compounds are made in the ſhops, as waters, ſyrups, conſerves, powders, troches, confections, electuaries, pills, *&c.*

CHAP.

Chap. I.

Of Medicines cooling and attenuating Choler.

The cholerick humour as often as it produces any disease, requires cooling medicines; but when it is thick and fixed to any part, then not only refrigerating medicines, but also gently attenuating.

Refrigerating Medicines come in to use, as indication is taken from the disease or the cause of the disease. Choler is hot and produces hot diseases, so that refrigeration is necessary for both. Attenuating remedies are to be used almost in all Feavers, especially those which proceed from a putrefaction of the humours. For all putrefaction is caused by the hindrance of transpiration, transpiration is hindred by obstruction, obstructions are produced by the multitude and thickness of the humours.

Therefore as some putrid Feavers are caused by multitude of humours, so the greatest part of them is accompanied with a thickness of the humours; which if it be not so much especially in choler, as to obstruct the open passages, yet it is sufficient to shut up the insensible pores of the internal parts: which that they may be opened, the humour is to be prepared by at least gently attenuating medicines. To this add, that sometimes choler is fixed to some part, which that it may be removed, it is to be attenuated, and to that use medicaments refrigerating and attenuating choler were destin'd; which though they are cold, have a certain tenuity of substance, which they manifest by a slight sharpness and bitterness, and by that they attenuate the humours.

The Series of these Medicaments is this.

Simples.

Roots *of Sorrel, Grasse, Succory, and sharp pointed Dock.*
Leaves *of Endive, Succory, Sorrel, Maiden-hair, garden Endive, Lions tooth.*
Seeds, *the four cold greater seeds, seeds of Endive, Sorrel, Barly.*
Fruits, *Apples, sowre Plums, sowre Cherries.*
Flowers *of Succory*, especially mingled with flowers of *Borrage, Bugloss*, and *Violets*, which though they have not an attenuating vertue, yet because they cool, moisten and corroborate, therefore upon almost every indication of refrigeration they are frequently prescribed, whether attenuation, or incrassation be requisite.

Compounds.

Waters of *Sorrel, Succory, Grasse, Endive, Barly*; which is made not by distillation but by decoction only.
Juices of *Limons, Granates, Apples, Vinegar, bitter Grapes.*

Syrups, *of Limons, of Vinacre simple, of the juice of Sorrel, of Maiden-hair, Apples, of sowre Granates, of Agresta, Oxysaccharum.*

Conserves *of the flowers of Succory, Sorrel leaves, Maiden-hair, Cherries preserved.*

Powders and Electuaries, *cold Diamargarite, Diatriasantalion.*

Chymicals, *Spirit of Sulphur, Vitriol, sal Prunellæ.*

Chap. II.

Of Medicaments cooling and thickning choler.

Sometimes Choler by its thinnesse breeds many incommodities, which are helped by Medicaments that cool, and thicken, and curb the violence of the raging humour.

Hot and thin choler in acute diseases, often causeth an orgasmus, so that if it be vehemently stirred, there is danger, lest it should fall upon some noble part and hurt it. Otherwise being carried to the intestines, it breeds Diarrhœa's, and sometimes being mixed with other humours, and being by them made thin, it causes great fluxions, so that after part thereof is evacuated by purgation, the residue must be incrassated, that the vehement motion of the disease may be hindered: for which reason incrassating Medicaments are used, which are necessarily cold, incrassation depending naturally on coldnesse.

But those incrassating Medicaments are these:

Simples.

Roots, *of Marsh-mallows, and Plantane.*
Leaves, *of Purslain, Plantain, Mallowes, Marsh-mallowes.*
Seeds, *of Lettice, Purslain, white Poppy, Mallowes, Fleabane, Quinces.*
Fruits, *Jujubes, Sebestens, Quinces.*
Flowers, *of Water-lilly, Poppy, Pine-tree, Violets, red Roses.*
Gums, *Arabick, Tragacanth.*
Animals, *Ivory, Spodium, Harts-horn.*
Minerals, *Terra Sigillata, bole Armenick.*

Compounds.

Waters, *of Lettice, Purslain, Poppy, Pine-apples, Water-lilly, Roses.*
Syrups, *of Violets, Jujubes, Poppy, Pine-blossoms, dry Roses, white Poppy.*
Juices *of Quinces.*
Conserves, *of Roses, Violets, flowers of Water-Lillies, candid Lettice, and preserved Quinces.*
Electuaries, *Diatragacantum frigidum, Diapenidion without species.*
Troches, *of Spodium.*
Chymics, *Laudanum opiaticum, sal Prunellæ.*

Though sal Prunellæ were reckoned among the things that attenuate, yet it ought to be reckoned here, because that it suppresses the motion of the humours by its cold nature, and by a wonderful quality produces as it were contrary effects;

effects; for it incrassates thin and unconstant humours, and wonderfully asswages their violence; which makes it very profitable in all effusions of bloud: it is also Diaphoretick, which makes it very profitable in Pleuresies, Peripneumonies, and malign Feavers; it provokes urine, and is very much advantageous for those that are troubled with the stone.

Chap. III.

Of Medicaments altering Flegm.

Excrementitious flegm is cold and moist, thick, slimy and clammy, and therefore the Medicaments which prepare it, must be of a heating, drying, attenuating, cutting and cleansing faculty.

Flegm cannot well be purged away by Catharticks, till it be first well prepared with altering medicines, and be rendred fit for purgation. Therefore the Medicaments destin'd to this use, as to their first qualities, heat and dry the cold and moist humour, and as to the second, attenuate the thick, cut the clammy, and cleanse the slimy ones, and so dispose it, that it may be more tractable for purgation.

Note that salt flegm doth not want heating things so much, but rather temperate, mixt with those cold things that can incrassate choler, especially when the salt flegm breeds Catarrhs.

The Medicaments altering flegm are these:

Simples.

Roots, *of Elecampane, Cyperus, Calamus Aromaticus, Galingal, Smallage, Parsly, Fennel, Zedoary or Setwal, Florence orrice, China, Sarsaparilla or Brindweed, Ginger.*

Woods, *Xyloaloes, Guaiacum, Sassafras.*

Barkes, *of dry Citrons, Guaiacum, Cinamon.*

Leaves, *of Sage, Betony, Rosemary, Marjoram, Thyme, Origanum, Calamint, Penny-royal, Wormwod, Mint, Germander, Ground-pine.*

Seeds, *of Anise, Smallage, Parsly, Citron, blessed Thistle, Carowaies, Ammi or Bishopsweed, Carrots, Seceli, or Hartwort.*

Fruits, *Pepper, Cubebs, Cloves, Cardamome.*

Flowers *of Sage, Stœchas, Rosemary, Lavender, Betony, Squinanth, Mace.*

Animals, *Musk, Civet, Castor.*

Minerals, *Ambra Grise, prepar'd Steel.*

Compounds.

Waters, *of Sage, Betony, Fennel, Hyssop, Wormwood, Bawm, blessed Thistle, Celestial, Imperial, Treacle-water, Cinnamon, Aqua vitæ.*

Syrups, *of Stœchas, Hyssop, Mint, Wormword, of the five Roots, simple Oxymel, compound Oxymel, Syrup of conditement of Citron pills, Mel rosatum.*

Conserves and Comfits, *of Sage flowers, Stœchas, Rosemary, of leaves of Wormwood, Ginger, of the roots of Elecampane, of the root of Acorus, of Citron pils, Myrobalanes, and Nutmegs.*

Confections, *Treacle, Mithridate, Aurea Alexandrina, Alkermes.*
Powders and Electuaries, *Diambra, Diamasch of Gems, Dianthos, Diaireos, Diagalanga.*
Troches, *Gallia Moschata, Alipta moschhata, of Myrrh, of Wormwood, of Eupatory.*
Chymical, *Oyl or Essence of Annise, Fennel, Thyme, Sage, Cinamon, Gilliflowers,* and many other things.

Chap. IV.

Of Medicaments altering Melancholy.

The melancholick humour is cold and dry, thick and earthy, therefore the medicaments that prepare it, ought to heat, moisten, attenuate and cut.

It is impossible to finde out any Medicament that attenuates, heats, and moistens altogether. For those things which heat and attenuate, do necessarily dry. And therefore we cannot alter this humour in all its qualities, but by mixing attenuating things with them, which have a peculiar moistening faculty; which is performed by things that follow:

Simples.

Roots, *of Elecampane, Eringoes, Parsly, Bugloss, Fennel.*
Barks and Rinds, *of the roots of Cappars, the middle rind of Ash-tree, Tamaris, Elder, Citron pills.*
Leaves, *of Fumiter, Hops, Spleenwort, Dodder, Bawm, Borrage, Burnet, Maidenhair.*
Seeds, *of Anise, Fennel, Smallage, Citron, blessed Thistle.*
Fruits, *Raisins, Cappars, smelling Apples, Currans, grames, and Kermes.*
Flowers, *of Broom, Tamaris, Borrage, Bugloss, Marigold, Elder, Violets, Saffron.*
Gums, *Bdellium, Ammoniac.*
Minerals, *Steel.*

Compounds.

Waters, *of Borrage, Bugloss, Bawm, Fennel, Carduus benedictus.*
Syrups, *of smelling Apples, Fumitory, of the 5 Roots, Byzantine, and of Maidenhaire.*
Conserves and Comfits, *of flowers of Borrage, Bugloss, Broom, Violets, roots of Elecampane, rinds of Citron, condited Myrobalan.*
Confections, *of Alkermes, Treacle.*
Powders and Electuaries, *Diambra, Latificans Galeni, of Gemms, Diamoschum dulce.*
Chymical, *Salts of Ash-tree, Tamaris, Tartar, Cream of Tartar, prepared Steel.*

Chap. V.

Of Medicaments altering black Choler.

Black Choler is generated from aduſtion, which makes it hot and dry and ſomething thick, ſo that the Medicaments which prepare it, muſt be cold, and moiſt, and withall attenuating.

Theſe are not much diſtinguiſhed from thoſe things, that prepare yellow choler, only that thoſe are choſen which are more moiſt, and therefore no ſharp things are here uſed; becauſe they are thought to have a drying faculty. Therefore thoſe things which alter yellow choler may here be uſed: yet properly and directly the following Medicaments are moſt convenient againſt black choler.

Simples.

Roots, *of Bugloſſe, Borrage, Liquoriſh.*
Leaves, *of Borrage, Bugloſſe, Fumitory, Hops.*
Seeds, *the four great cold Seeds.*
Fruits, *Fragrant Apples.*
Flowers, *of Borrage, Bugloſſe, Violets, Water-Lilly.*

Compounds.

Waters, *of Borrage, Bugloſſe, Water-Lilly.*
Syrups, *of Violets, fragrant Apples.*
Conſerves, *of violets, Borrage, Bugloſſe, Water-Lilly, Lettice.*
Chymicals, *Spirits of Sulphur, Vitriol, Sal prunellæ, Saturne, Martis, Tartar, Cream of Tartar.*

Chap. VI.

Of opening Medicines.

In many paſſages of the body, eſpecially the veins of the Liver, Meſentery, and Womb, obſtructions are bred from thick and clammy humours, which adhere to the tunicles of the veſſels, and hinder the paſſage of the other humours.

In cold natures, ſedentary people, and ſuch as uſe bad nouriſhment, crude humours are generated, which being carried to the narrow paſſages, cannot by reaſon of their craſſity paſſe through, but are more and more thickned, and become more clammy and glutinous, ſticking to the tunicles of the veins, and begetting obſtructions there which brings along with it infinite miſchief.

But thoſe obſtructions are opened by aperitive medicaments, which according to Galen, 5. de ſimpl. med. fac. c. 11. *are of a nitrous and bitter quality, by the help of which quality they attenuate, cut and cleanſe, and ſo are near a kin to thoſe medicaments that prepare flegm.*

Opening

Opening Medicaments, are by *Galen* called purging, and unstopping Medicaments, with which faculty all those medicines are endued, which are most necessary for the taking away of obstructions; for by their attenuating quality, they take away the thickness of the humour; as they cut, they take away the clamminesse, which consists in the tenuity of the parts; and as they cleanse, they shake off the humour adhering to the parts.

Whatsoever therefore are truly and efficaciously opening, must be of necessity hot; yet cold opening things are given though of lesser vertue, and lesse properly so called, fit for slighter obstructions and hotter natures.

In putrid Feavers or otherwise hotter natures, obstructions do often happen, which unlesse they be very obstinate, are to be taken away by cool openers; or at least, cool ones are to be mixed with the hotter, which notwithstanding are not so absolutely cold, as compared with others. For of themselves, they are either temperate, or remisly cold; for an open faculty cannot consist with an extreme coldnesse.

Those opening Medicaments are these:

Hot openers. *Simple.*

Roots, *of Smallage, Parsly, Fennel, Fern, Cyperus, Elecampane, Gentian, Eringos, Cammock, both Birthworts, Asaraban.*

Rinds, *of the roots of Cappers, the middle rinde of Ash, the middle rinde of Tamaris.*

Leaves, *of Origan, Calamint, Penyroyal, Germander, ground Pine, lesser Centaury, Betony, St. Johns Wort, Wormwood Roman, all the Maiden-hairs,* which are temperate.

Seeds, *of Smallage, Parsly, Fennel, blessed Thistle, Nettle, Agnus castus, Anise, Carrots, Siceli or Hartwort, Ammi or Bishopsweed, red Chiches.*

Flowers, *of Stœchas, Rosemary, Broom, Elder, Tamaris, Hyssop, Betony.*

Gums, *Ammoniack, Bdellium, Aloes, Turpentine, Myrrhe.*

Minerals, *Steel.*

Compounds.

Waters, *of Fennel, Betony, Wormwood, Hyssop, Carduus benedictus, Cinnamon.*

Syrups, *Byzantine, of the five Roots, of Wormwood, simple Oxymel, compound Oxymel.*

Conserves, *of flowers of Broom, Tamaris, leaves of Wormwood, Maidenhair, roots of Elecampane, Ginger.*

Electuaries, *Aromaticum Rosatum, Diarrhodon Abbatis.*

Confections, *Alkermes, Treacle.*

Troches, *of Cappars, Wormwood, Eupatory, Myrrhe.*

Chymicals, *prepared Steel, Salt of Wormwood, Tamaris, Ash-tree, Tartar, Cream of Tartar, Oyl of Anise, Fennel, Cinnamon, Spirit of Turpentine.*

Cold openers. *Simple.*

Roots, *of Succory, Grasse, Asparagus, Sorrel, Bruscus or Knee-holy, sharp pointed Dock.*

Leaves,

Leaves, *of Endive, Succory, Sowthistle, Sorrel Liverwort, Agrimony, all the Maidenhairs.*
Seeds, *the 4. greater cold ones, Sorrel seeds.*
Flowers, *of Succory.*

Compounds.

Waters, *of Endive, Succory, Grasse, Sorrel, Agrimony.*
Syrups, *of Vinacre simple, of Limons, of Succory simple, of the juice of Sorrell, of Maidenhair.*
Electuaries, *Triasantalon, Diarrhodon Abbatis,* temperate.
Chymical, *Spirit of Sulphur, Vitriol, Sal Prunellæ, Cremor Tartari.*

Chap. VII.

Of purging Medicaments.

Hitherto we have proposed those Medicaments which prepare noxious humours; and make them fit for purgation: now we treat of those medicines that purge them.

The humours are usually evacuated, by such purging Medicines, as having a familiarity with the substance of them draw the humours to them, as the loadstone drawes iron.

Therefore there are so many sorts of purging medicines, as there are sorts of humours in the body fit for purgation, that is choler, flegm, melancholy and water.

The humours which are evacuated by the help of purging Medicaments, are choler, flegm, melancholy, and the serum or watry humour, to every one of which there are peculiar remedies elective purging. So those that purge choler are named *Cholagogues*; flegm, *Phlegmagogues*; melancholy, *Melanagogues*; the serous humours, *Hydragogues.*

These are again divided into milde, moderate, and vehement remedies.

All purging Medicaments work not with like force, but some with lesse, some with greater; according to their various power of acting allowed them by nature: and therefore that their vertues may be the easier drawn forth to use, they are divided into three ranks, milde, moderate, and vehement. Milde Medicaments are commonly used in weak natures, or where the first region is only to be evacuated. Moderate in a moderate condition of the strength, and to evacuate the second Region. Lastly, the most vehement in stronger bodies, and when the humour is to be attracted from the remoter parts, as the brain, joints, *&c.* But commonly a wary Physician in the same medicament mingleth vehement with milde and moderate, that they may work the more successfully together.

And for the better using of them the just dose of every one is to be propounded.

'Tis of very great moment, rightly to understand the dose of every Medicament; without which no man can make a medicine without the apparent endangering the life of the patient. But because the dose of purging Medicines, is to be changed according to the various disposition of the bodies, which wholly depends upon the judgement of the Physician; we will therefore propound a greater and lesse dose, as they are used in a moderate age; that from their latitude a convenient quantity may be discerned.

But

But those Doses are so to be taken, according as the Medicaments are taken by themselves, or (as they say) in their substance. For in infusion there is used a double quantity of the vehement remedy, in decoction a treble; but those more milde and moderate, are commonly trebled in the infusion, and quadruple in the decoction.

The vertue of Medicaments is lost by infusion and decoction; for that remains in a thin substance, which is easily dissipated by the heat; and therefore the force of the heat being much stronger in decoction then infusion, it followes that the purging faculty is more diminished, and therefore a greater dose of the Medicine to be prescribed.

From this general Theorem, are excluded Rhubarb, and Myrobalans, which purge more in infusion, then in the substance; because they have not only a purging, but a binding quality, which is lost by infusion.

These two medicaments obtain a purging and astringent faculty by reason of their various substance, *viz.* thin, and thick, or earthy. For the purging faculty resides in the thin substance; in the earthy, the binding quality. Now in infusion the thin substance is carried into the liquor, the earthy rejected, so that the purging faculty only remains in the confusion.

Chap. VIII.

Medicaments purging Choler.

Simple. More milde.

Cassia, from ʒj. to ʒj. ß.
Manna, from ʒj. to ʒij.
Juices of Roses, from ʒj. ß. to ʒiij.
Tamarinds, from ʒij. to ʒiij.

Moderate.

Aloes, from ʒj. to ʒij. 'tis corrected with *Mastick* and *Tragacant*.

Rhubarb, from ʒj. to ʒij. as well in substance, as infusion, 'tis corrected with *Spikenard* and *Cinnamon*.

Myrobalans Citrine, from ʒij. to ʒiij. they binde more then purge, the binding faculty is diministed by infusion, and rubbing them with *Oyl of sweet Almonds*.

Vehement.

Scammony, from gr. viij. to gr. xv. 'tis corrected with *juice of Quinces*, and being corrected, 'tis called *Diagridion*.

'Tis corrected also with *vapour of Sulphur*, as in the description of the powder of *Cornachinus*, as also with *juice of Limmons* by infusion and evaporation. Lastly, there is an extraction thereof prepared with *Spirit of Wine*, which is called *Rosin of Scammony*, purging mildly.

Com-

Compounds. Syrups.

Of Roses solutive,
Of Succory with Rheon, } from ℥iij. to ℥iiij.

Opiates.

Catholicum,
Diaprunum simplex, } from ʒj. to ʒj. ß.
Diacassia,

Diaprunum solutive,
Electuary of the juice of Roses, } from ʒß. to ʒj.
Tryphera Persica,

Pills.

Aurea or golden Pills,
Sine quibus, or pills without which, } from ʒ j. to ℈iiij.
Of Rhubarb,

Chymicks.

Extract of Rhubarb, Scammony, Mercurius dulcis, Mercurius vitæ, Crocus of Metals, and other purging preparations of Antimony.

Chap. IX.

Medicaments purging flegm.

Simple. Milde.

Seed of wilde Saffron, from ʒj. to ʒij. it is corrected with *Anise, and Cinamon.*

Moderate.

Agarick, from ʒj. to ʒij. corrected with *Ginger and Sal Gemma.*

Vehement.

Turbith, from ℈ij. to ℈iiij. corrected with *Ginger.*
Hermodactyle, with the same dose and correction as *Turbith.*
Colocynth, is not used unlesse prepared and corrected in Troches, which are called *Alhandal*, from 8. gr. to gr. 15.

Compounds. Opiates and Electuaries.

Catholicum,
Diaphœnicum,
Hiera Picra,
Electuary of Diacarthamum,
Of Citron Solutive,
} from ʒß to ʒj.

Pills.

Of Cochie the greater,
Of Agarick,
Sine quibus, or without which,
Stomack Pills,
} from ʒj. ℈ iiij.

Of Cochie the lesser,
Fetide majores, or stinking pills the greater,
Lucis majores,
Arthritical Pills,
Of Hermodactyles,
} from ℈ij. to ʒj.

Troches.

Agarick Trochiscated, from ʒj. to ℈ iiij.

Chymicks.

Extract of Agarick, *Colocynth*, *Mercurius dulcis*, *Mercurius vitæ*, *Crocus Metallorum*, and other preparations of Antimony.

These purgers fetch'd from Minerals purge all humours, and are therefore described in several Chapters.

Chap. X.

Medicaments purging Melancholy.

Simple.

Sena, from ʒj to ʒ ij.
Polypodium, from ʒ ij. to ʒß.
Epithymum, the same dose.
Black Hellebore, from gr. 15. to ʒß. 'tis best to infuse or decoct it and give it from ʒj. to ʒ ij.

Com-

Compounds. Opiates.

Catholicum, *Diasenna*, } from ʒ vj. to ʒ x.
Confectio Hameck, from ʒ iij. to ʒ vj.

Chymicals.

Extract of Sena, black Ellebore, and Antimony, variously prepared.

Chap. XI.

Medicaments purging watry humours.

Simple. Milder.

Seed of Wallwort, to ʒ j.
The middle rinde of the same, to ʒ ij.
The juice of the same, from ℥ j. to ʒ x.
The juice of our orice, from ℥ j. to ℥ ij.
Elder, the same quantity with the forementioned, but lesse efficacious.

Moderate.

Root of Mechoacan, from ʒ j. to ʒ ij. it is not boyled, but infused in White-wine, and the liquor is given with the powder.
Root of Jalap, the same quantity with *Mechoacan*, but more efficacious.

Vehement.

Bindweed powdered, ʒ j. to ʒ ij.
Juice of the same, from ℥ ß to ℥ j.
Elaterium, from gr. viij. to gr. xvj.
Spurge, from gr. viij. to gr. xij.
Chametæa, *Thymelæa*, *Gutta Gummi*, } from gr. v. to ϑ ß.

Compounds.

Diaturbith, to ʒ j.
Diacarthamum, from ʒ vj. *to* ℥ j.
Pills of Sagapenum, to ϑ iv.

Chymicals.

Resin of Jalap, Scammony, Cornachinus powder, Mercury, and Antimony, variously prepared.

Chap. XII.

Of vomiting Medicaments.

The noxious humours contained in the stomack and parts near it, oft-times are more easily evacuated by vomit, then by stool, if the patient be more prone to it; to which use those Medicaments are destined, which are called vomitory.

Oft-times excrementitious humours swim in the stomack, which are expelled a shorter way by vomit, especially if the patient be troubled with nauseousnesse, and be subject to vomit; for cholerick, slender, and large breasted people easily endure vomiting, according to the doctrine of *Hippocrates*: on the contrary, melancholy, fleshy and narrow breasted people are more vexed by vomiting, especially if they are troubled with a consumption, Asthma or any other affection of the lungs. To this may be added the time of the year; for in the summer, purgation upwards is more easie; in the winter, not so: but although the use of these remedies is not very frequent, yet 'tis certain, that being used opportunely, they produce admirable effects; for we have seen many intermitting Feavers that have resisted all other remedies which have been cured only by vomitories.

These medicaments provoke vomiting either by a manifest faculty, by loosening the stomack, or by some specifical property, as purging.

Whatever are fat and oily, taken in great quantity, do loosen the stomack, and subvert it, which causes vomiting; by which those things are only evacuated that are contained in the stomack. But those things which are properly called vomitories by an occult quality, attract the humours to the stomack, and excite it to an upward expulsion. And so the humours contained in the Liver, Spleen, and parts adjoyning to the Stomack, are not seldom happily evacuated.

The choice and most in use are these:

The more Gentle.

Water luke-warm, Barly-water luke-warm, fat Broths luke-warm, Butter, Oyl, simple Oxymel, simple syrup of Vinegar: all which are to be drank in a good quantity.

Moderate.

Seed of Arrach, Dill, in decoction from ʒ ß. to ʒj.
Flowers of Dill, Broom, in decoction from p. j. to p. ij.
Seed of Radishes, in decoction, from ʒ ß to ʒ vj.
Juice of Radishes, to ʒ iij.
Pumpion Roots, to ʒj. in decoct.
Agarick, from ʒj. to ʒij.
Root of Asarabacca, from ʒj. to ℈iiij.

Vehement.

Nux methel, balanus Myrepsica, Cataputia, burnt Copper, White Ellebore.

The dose of them is not set down, because it is better never to use them through the danger, which the vehemency of them may cause, or at least not without accurate preparation and correction.

The

The Chymicks abound with vomitory Medicaments, and those for the most part so vehement, that for their sakes all spagyrick remedies are suspected among the vulgar. Of this sort are those which are compounded of Antimony; especially *glasse and flower of Antimony*, which I never durst hitherto use, though I have been willing to try the effects of Spagyrick Remedies, and their force in physick. For it is not to be denied, that some Spagyrick Remedies prudently used by the Physician, have that successe which vulgar remedies cannot produce. And therefore it will not be amisse briefly to declare those Spagyrick Vomitories which have been known to do good.

Those are four, in vertue and effects very various, which whoso will use these remedies cautiously ought to have ready at hand, that he may proceed from those lesse vehement, to those more strong, if the others prove not sufficiently efficacious.

The first is *white Vitriol prepared*, as is prescribed by *Crollius* and *Beguinus*, which is so gentle a vomit, that it is safely given to children from ℈ ß. to ʒ ß. to those that are more grown, to ʒj. dissolved in common water; it evacuates only the humours contained in the stomack, but nothing from the other parts.

The second is *Salt of Vitriol*, extracted out of Cyprian Vitriol calcin'd, which works more vehemently then the former, it evacuates the stomack only. The Dose thereof is from gr. x. to gr. xx. dissolved in ordinary water. It is described by *Beguinus* under the name of *Sal Colchotar*; and by *Angelus Sala in Triumpho Emeticorum*, and in his *Anatomy of Vitriol*.

The third is *Aqua benedicta*, described by *Quercetanus* in his *Pharmacopœa*, it is compounded of Antimony, and is more vehement then the first, and is not to be given but to strong men, and that with great caution: but if it be seasonably used it produces rare effects. The Dose of this water is from ʒj. to ʒiij. it draws humours not only from the stomack, but from the whole body.

The fourth is *pulvis Emeticus*, which is vulgarly called *Mercurius vitæ*, and is described by *Beguinus* and *Crollius*, it is more vehement then any before named; yet it may have its use in the cure of obstinate diseases, and which resist the force of ordinary medicins; yet it must be cautiously used, and when the strength is no way impaired; it removes the humours powerfully from all parts of the body. The Dose is from gr. iij. to v. in Broth, conserve of Roses, or any such thing. The vehemency of this *Mercurius vitæ* may be corrected, so that it may be given in greater quantity, and may hardly, or very little, provoke vomiting; and may perform its work downward. Many waies of correcting it are to be seen in *Hartmannus*, in his *Commen. upon Crollius*.

This we add approved by our own experience, which purges downward in many sick people, in others causes vomiting once or twice only. This correction of ours is most easie, which is done by putting *Mercurius vitæ* well washed in a porrenger glas'd with earth upon a chafingdish alwaies stirring it. A black & stinking fume exhales, which contains venome that lurks within; which in two or three hours exhales quite away, continuing the labour of stirring it. And then the work is done when it hath done evaporating. If after the operation it move vomiting, it is to be repeated, and it will work the desired effect. The whitest powder by this coction, obtains a gray colour; it may be given from gr. iiij. to gr. viij. reduced into a tablet with sugar and mucilage of tragacanth, that it may be administred without nauseousnesse.

Chap.

Chap. III.

Of Sudorifick Medicaments.

In Chronical and contumacious diseases, Sudorificks are often used.

Those diseases which cannot be cured by altering and purging Medicaments, but are deeply fixed, such as are Epilepsies, Palsies, obstinate Catarrhs, Dropsies, Gouts, and any cold affections, and especially the Pox, require more powerful Medicaments to eradicate them, such as are Sudorificks; which being used for many daies, as the custome is, not only purge the third Region, for which they are most proper, but also the whole body.

They being endued with a heating and attenuating faculty, melt the humours and drive them out through the insensible passages.

The humours causing long diseases, are for the most part cold and thick, and therefore Sudorificks are most convenient for them; which heat those humours, melt and attenuate them, open the insensible passages of the body, and evacuate the humours through them.

But many things move not sweat so much by any manifest quality, as by a specifical property.

This opinion is not among the ancient Physicians, for they refer'd all the force of Sudorificks to manifest qualities, neither were these excellent Sudorificks which are now known to us, known to them; yet it is necessary to acknowledge an occult quality in them, by which they provoke sweat; when as Pepper, and wilde Pellitory, which are hot and attenuating, do not move sweat; yet China root, in the first qualities something temperate, doth effectually.

The Sudorificks are these:

Simples.

Guaiacum-wood and the bark of it, Sassafras-wood, China-root, Sarsaparilla-root.
These do effectually provoke sweat, those that follow, lesse effectually.

Roots, *of Carline, Angelica, Setwall, Vipers-grasse, Fennel, Smallage, Parsly, Burdock, Burnet, Tormentill.*

Leaves, *of Water-germander, Meadsweet, Carduus benedictus, Maiden-hair, Burdock.*

Seed, *of Carduus benedictus, common Millet, Lentils.*

Flowers, *of Camomil, Blew-bottle, red Poppy.*

Compounds.

Water, *of red Poppy, Carduus Benedictus, Scabious, Treacle, Opiate, old Treacle.*

Chymicals.

Salt of Carduus benedictus, Mother of pearls calcin'd, the Bezar Mineral of Beguinus. Antimonium diaphoreticum of Crollius. Bezoardicum joviale Hartmandi, in his Commentaries upon *Crollius,* and other infinite things described by

by the Chymical Physician. We have only the before mentioned brought into use, and have experienced the good effects of them; some examples whereof may be seen in *our Observations*, especially in the cure of malignant Feavers.

Chap. XIV.

Of Diuretick Medicaments.

By Diuretick Medicaments are conveniently purged the gibbous parts of the Liver, the Reins, Bladder, Womb, and the whole stock of the veins.

As the effects oppressing the veins, are known by the Urines, because part of the matter contained in the veins is carried to them, also the same effects often ending by that Crisis, which is made by a Perirrhœa; so the noxious humours are the more easily purged away by Diureticks.

Of these some are hot, some cold.

The hot by melting the humours, separate the more watry and serous parts which are afterwards attracted by the reins.

Those Medicines which are properly and truly called *Diuretick*, are sharp and vehemently hot and dry, therefore they drain the bloud and separate the serous humour from it, they also melt flegm and thick humours, and change them into a watry humour, which is easily mingled with the serous humour, and is together attracted to the reins, and expelled with the Urine.

But the cold ones sometimes by cleansing, and sometimes by increasing the watry humour, move urine.

Some Medicaments cleanse the humours that are contained in the vessell and reins, and do a little attenuate them, because although they are cold, yet they have thin parts, and so do move urine. Such are *Grasse, Asparagus, Pellitory of the wall, Maiden-hair, &c.* Many other things are endued with a moisture, which is afforded to the veins, and afterwards attracted by the reins, with which the humours in the veins are carried along. Of this nature is *Marshmallowes, Cucumers, the greater cold Weeds.*

The matter of these Diuretick Medicaments as well hot as cold, is this:

Hot Diureticks. Simple.

Roots, *of Smallage, Parsly, Fennel, Eringo's, Valerian, Asarabacca, Cammock, Radish.*
Rindes, *the middle rinde of Broom, and the middle rinde of Tamarisk.*
Leaves, *of Saxifrage, Burnet, Smallage, Nettles, Fennel, Germander, lesser Centaury, Water-mint, Water-cresses, Savine.*
Seeds *of Massilian Hartwort, Macedonian Parsly, Smallage, Radish, Nettles, Lovage, Millet of the sun, white Thorne, red Chiches.*
Fruits, *Laurel and Juniper berries.*
Flowers, *Broom, Camomil.*
Gums, *Turpentine.*
Animals, *prepared bloud of Goats, Cantharides.*
Minerals, *Carabe.*

Com-

Compounds.

Waters, *of Fennel, Smallage, Savine.*
Syrups, *of the five Roots, Venus hair, Byzantine, Oxymel simple and compound.*
Conserves *of Broom-flowers.*

Chymicals.

Spirits, *of Sulphur, Vitriol, Salt, Tartar, Turpentine.*
Salt, *of Tartar, Ivie-berries, Bean-husks.*

Cold Diureticks. Simple.

Roots, *of Asparagus, Grasse, Knee-holy, Marsh-mallowes, sharp pointed Dock, Sorrel.*
Leaves, *of Venus-hair, Sorrel, Pellitory of the wall, Burstwort, Marsh-mallows, tops of Asparagus.*
Seeds, *the four greater cold ones, Sorrel, Alkekengi, Barly.*
Fruits, *Gourds, Pumpions, Cucumers, Strawberries.*
Flowers, *of Althæa, Succory.*
Gums, *Caphura.*
Juices, *of Limmons, Sowre Pomegranates.*

Chymicks.

Sal prunellæ, Spirit of Sulphur and Vitriol: which although they be reckoned among the hot Diureticks, yet have a very great refrigerating vertue, and are usefull both in hot and cold affections, by reason of their extraordinary thinnesse and penetrating quality; which makes them the vehicles of other Medicaments.

Compounds.

Waters, *of Pellitory of the wall, Grasse, Sorrel, Barley.*
Syrups, *of Venus-hair, Limons, and Marsh-mallowes.*
Conserves, *of Venus-hair, Eringo roots, the inside of a Gourd.*
Troches, *of Caphura.*

Corollary.

Among the evacuating Medicaments, those things which move the months are to be reckoned, which are better referred to the series of Hystericals, where they may be found.

Chap.

Chap. XV.

Of Medicaments called Errhines.

In long diseases of the head, proceeding from flegm, after universal evacuations, Errhines are used, which draw it down and purge it away through the nostrils.

Those evacuations which empty the whole body of humours are said to be *universal*, which are succeeded by those, which evacuate only a particular part, and are therefore called *particular*: such is that, that brings down flegm from the brain through the nostrils, most convenient in many affections thereof, for after most part of the excrement is drawn away by universal evacuation, the remaining part is best evacuated through the near adjoyning places.

And that they may more easily draw down this thick and cold humour, they ought to be hot, attenuating and cleansing.

Such are these that follow:

Roots, *of Orice, Cyclamine, wilde Cucumer.*

Leaves, *of Beet, Colewort, Pimpernel, Marjoram, Sage, Betony, Penny-royal, Organy, Horehound, Ivie, Tobacco.*

Gums, *Euphorbium.*

Juices *of the roots, and leaves of the aforesaid Herbs, Elaterium.*

Chap. XVI.

Of Sternutatories.

Sternutatory Medicaments, by exciting the expulsive faculty of the brain through their acrimony, draw flegm from the brain, and rouse up the drowsie brain in comatous affections: Such are these that follow:

Roots, *of Ginger, wilde Pellitory, Florence Orice, white and black Ellebore.*

Leaves, *of Marjoram, Betony, Sage, Tobacco.*

Gums, *Euphorbium.*

Animals, *Castor.*

Chymicks.

Spirit of Sulphur, Vitriol, Salt of Vitriol.

Chap. XVII.

Of Masticatories.

Apophlegmatizing Medicaments, are those which draw flegm from the brain through the mouth, which they do by their heat and acrimony, by which they attenuate the humour, and stir up the expulsive faculty. They are of this kinde:

Simples.

Roots, *of Ginger, wilde Pellitory, Angelica.*
Leaves, *of Sage, Marjoram, Hyssop, Organy.*
Seeds, *of Watercresses, Mustard, Staveſacre, Nigella, White and black Pepper.*
Fruits, *Raisins, Cubebs.*
Gums, *Mastick.*

Compounds.

Vinegar of Squils.
Oxymel of Squils.
Treacle, Confection Anacardina.

Chap. XVIII.

Of Cephalick Medicaments.

Cephalick Medicaments are those which strengthen the brain, and help the distempers thereof.

Many medicaments are given which by a specifical property, and sympathy which they have with several parts of our body, strengthen them and resist their several affections: such are *Cephalicks*, which are supposed to exercise their vertues peculiarly upon the brain.

They are twofold, hot and cold.

Hot things heat and dry the brain, cut and attenuate the flegm contained therein.

Cold things partly temper the hot distempers of the brain, and partly incrassate the sharp and salt flegm, and other thin humours which cause great defluxions from the head.

Because the brain is affected now with hot, now cold distempers, the Medicaments which concern it ought to be of two sorts, that we may remedy all these diseases.

The matter of them is as followes:

Hot Cephalicks. Simple.

Roots, *of Spikenard, Calamus Aromaticus, Valerian, Florence Orrice, Acorus, Galenga, Setwall, Piony.*
Woods, *Misleto of Oak, Xyloaloes.*
Barks, *Cinamon.*
Leaves, *of Betony, Marjoram, Sage, Rosemarin, Laurel, Calamint, Pellamountain.*
Seeds, *of Piony, Cardamom, Mountain-osier, Roman Nigella.*
Fruits, *Berries of Laurel and Juniper, Cloves, Nutmegs, Cubebs, grain of Kermes.*
Flowers, *of Betony, Lavender, Rosemary, Sage, Mace, Camomil, Liby of the Vally, Tyletree.*
Juices and Liquors, *Opobalsamum, Wine.*
Gums, *Frankincense, Mastick, Scyrax, Benioin.*
Things taken out of the sea, *Succinum, Amber.*
Animals, *Castor, Musk, Civet.*

Com-

Compounds.

Waters, *of Betony, Sage, Marjoram, Orange flowers, Cinamon, Treacle, Imperial, Celestis, Aqua vitæ.*
Syrups, *of Stachas, Mel rosatum.*
Conserves, *of Acorus, Ginger, flowers of French Lavender, Rosemary, Sage, candied Mirobalans, Wallnuts candied, Nutmegs candied, bark of Citron.*
Confections, *Alkermes, Treacle, Mithridate, Aurea, Alexandrina.*
Electuaries, *Dianthos, Diambra, Diamoschum dulce, Diaireos, Aromaticum Rosatum.*
Troches, *of Gallia moschata, Carabe.*

Externals.

Oyls, *of Castor, Camomil, Orrice, Laurels, Nard, Rue, Spike, and of Foxes.*
Unguents, *Martiatum, Aregon.*
Emplasters, *of Betony, Laurel-berries, Melilot, of Mucilage.*

Chymicals.

Distilled Oyls, *of Rosemary, Lavender, Sage, Thyme, Fennel, Anise, Cinamon, Nutmegs, Cloves.*

Cold Cephalicks. Simples.

Woods, *all the Sanders.*
Leaves, *of Lettice, Purslain, Plantain.*
Seeds, *of Lettice, white Poppy, the 4. great cold seeds, Fleabane, Barly.*
Flowers, *of Roses, Violets, Water-lillies, red Poppy.*
Juices, *of Limmons, Granates, Vinegar, sowre Grapes, Opium, Pears, Camphire.*

Compounds.

Waters, *of Purslain, Lettice, Plantain, Roses, red Poppy, Water-lilly.*
Syrups, *of Violets, dry Roses, Poppy.*
Conserves, *of Roses, Violets, Water-lilly, Lettice, Cucumers.*
Electuaries, *Triasantali, cold Diamargarite.*
Confections, *Philonium, requies Nicolai.*
Troches, *of Caphura.*
Pills, *of Hounds-tongue, Laudanum opiaticum.*

Chymicks.

Sal prunellæ, Spirit of Sulphur and Vitriol.

Externals.

Oyls, *of Violets, Water-lillies, Roses, Caphura, of sowre Grapes.*
Unguents, *of Roses, Poplar, refrigerans Galeni, Santaline Cerecloth.*

Chap. XIX.

Of Ophthalmick Medicaments.

Ophthalmicks are properly those, which by a peculiar property corroborate the eyes, and sharpen the sight, called Oxydorcicks.

There are some secondarily related to the eyes necessary for the various affections thereof: as Medicaments that ease pain, repell, dry, digest, cleanse.

The eyes being endued with an exquisite sense, are many times much tormented with pain, so that they will require great art to ease them with anodyne Medicines. Sometimes they are inflamed, for which in the beginning repelling medicins are very good; afterwards resolving ones: lastly, they are afflicted with tears, ulcers, and other affections, for which drying and cleansing medicins are most convenient: all these must be exquisitely chosen, because of the delicate disposition and exquisite sense of the part. Which are as follow:

Medicaments quickning the Sight.

Roots, *of Fennel, Celandine, Radish.*
Leaves, *of Celandine, Vervain, Rue, Eye-bright, and Fennel.*
Seeds, *of Fennel, Radish, great Clary.*

Medicaments easing Pain.

Womans milk, the white of an Egge stirred and turned to water, Rose-water, Mucilage of the seed of Fleabane, Quinces, Crums of grated Bread, and boyled in milk with a little Saffron, *sweet Apples boyled, the pulp of rotten Apples, white Troches of Rhasis with Opium.*

Repellers.

Water, *of Roses, Plantain, peculi rosarum, Purslain.*
Juice, *of Quinces, sowre Apples, white of an Egge, Allum.*

Dryers.

Ceruse washed, Tutty washed, Antimony washed, ointment of Tutty, white Troches of Rhasis without Opium.

Digesters, or Resolvers.

Sarcocol nourished with milk, Saffron, womans milk, decoction of Fenugreek, the blood of young Doves, forced out of the greater feathers into the Eye.

Cleansing Without Acrimony.

Sugar-candie, Syrup of dry Roses, Tutty, Pompholyx, Lead burnt and washed, Antimony washed.

Cleansers

Cleansers with Acrimony.

The galls of Fish are gentle, *of Beasts* moderate, *and of Birds* strongest, among which *the gall of a Partridge* is strongest of all; *that of a Hen* most gentlest: *the juice of Celandine, and Fennel, compound water of Hony.*

Chap. XX.

Of Medicaments for the Breast.

Medicaments for the Breast, are those which are familiar to the Lungs, and prepare the humours contained in them to be purged.

But that these humours may be the more easily expelled by Anacatharsis, they ought not be too thick or too thin; so that the thicker humours are prepared by cutting, attenuating, and cleansing Medicines which are hot; the thinner, by incrassating, which are cold. The matter of these is this:

Pectoral Medicaments hot, and Simple.

Roots, *of Elecampane, Florence orice, both Birthworts, Liquorice, Ginger and Squils.*
Leaves, *of Colts-foot, white Horehound, Hyssop, Thyme, Savory, Origan, Calamint, Cats-foot, Ground-ivie, Ros solis, Tobacco,* which must be given in a little quantity, because it procures vomiting.
Seeds, *of Nettles, Hemp, Colewort, Massilian seeeli, or Hartwort.*
Fruits, *fat Figs, sweet Raisins, Almonds, Pine-nuts, Lawrel-berries.*
Flowers *of Camomil.*
Spices, *Saffron,* which is excellent.
Gums, *Turpentine, Myrrhe.*
Animals, *Hony, Fox-lungs, prepared.*
Minerals, *flower of Sulphur.*

Compounds.

Waters, *of Hyssop, Colts-foot.*
Syrups, *of Colts-foot, Hyssop, Liquorice, Venus-hair, simple Oxymel, Oxymel of Squill, Sugar candied.*
Conserves, *of Venus-hair, Elecampane-roots, Ginger.*
Electuaries, *Diaireos simple, Diaireos of Salomon.*

External.

Oyls, *of Orrice, sweet Almonds, Camomil, Lillies.*
Fats, *Hens grease, Ducks, Calves grease, Butter.*
Marrowes, *of Harts and Calves.*
Unguents, *of Althea, Marshmallowes resumptive.*
Emplaisters, *of Sulphur, Bay-berries, Filii Zachariæ,* or of the son of *Zachary.*

Pe-

Pectorals cold, and Simple.

Roots, *of Marsh-mallowes, and Liquorice.*
Leaves, *of Venus hair, Lungwort.*
Seeds, *the 4. greater cold ones, Mallowes, white Poppy, Fleabane, Bombax, barly.*
Fruits, *Jujubes, Sebestens, sweet Almonds, sweet Prunes.*
Flowers, *of Violets, Water-lillies, red Poppy.*
Gums, *Arabick, Tragacanth.*
Juices, *Amylum, or juice of Wheat, juice of Liquorice.*
Animals, *Womans, Asses, Goats milk, flesh of Lobster, and river Crabs.*

Compounds.

Waters, *of Lettice, Purslain, Water-lillies, red Poppy, Barly.*
Syrups, *of Jujubes, Violets, Venus-hair, white Poppy,* which is narcotick.
Sugars, *of Roses, Penids.*
Conserves, *of Roses, Violets, Borrage, Lettice, inside of Gourds candied.*
Electuaries, *Diatragacanth cold, Diamargarite cold, Diapenidion without species.*

Externals.

Oyl *of Violets, Water-lillies, sweet Almonds.*
Greases, *of Hens, Ducks, Calves, new Butter.*
These Greases are temperate, and therefore used both in hot and cold affections.

Chap. XXI.

Of Cardiacal Medicaments.

THose Medicaments are called Cardiacals, which by a specifical property corroborate the heart, refresh the vital spirits, and resist poyson and malignant affections; and because the heart is weakned sometimes by a hot, and sometimes by a cold distemper, therefore these Cordials, some ought to be hot, some cold.

Hot Cordials. Simple.

Roots, *of Dittany, Cink-foil, Vipers-grasse, Setwal, Gentian, Masterwort, Doringum.*
Barks, *Cinamon, dry rinde of Citron.*
Wood, *Xyloaloes.*
Leaves, *of Baulm, Scabious, Carduus benedictus, Basil, Pollep, Southernwood, Rosemarie, Lavender.*
Seeds, *of Carduus benedictus, Basil, Citron.*
Fruits, *Dyers grains, Juniper-berries, Nutmegs, Cloves.*
Flowers, *of Rosemarine, Borrage, Bugloss, Mace, Saffron, Spikenard.*
Gums, *Frankincense, Myrrhe, Mastick.*

Juices,

Juices, *of Balm, Scabious, Borrage.*
Animals, *Musk, Civet, Bezoar-stone, raw Silk.*
Minerals, *Amber, Succinum.*

Compounds.

Waters, *of Orange flowers, Balm, Rosemary, Carduus benedictus, Scabious, Aquæ vitæ, Imperial, Treacle, Celestis, Cinamon.*
Oyls Chymical, *of Cinamon, Cloves, Nutmegs.*
Syrups, *of the conditure of Citron peel, Byzantine.*
Conserves *of the flowers of Citron peel candied, Nutmegs candied, Mirobalans candied.*
Confections, *Alkermes, Treacle.*
Electuaries, *Aromaticum Rosatum, Diambra, de Gemmis, Letificans Galeni, Diamoschum Dulce.*

Cold Cordials. Simples.

Roots, *of Sorrel, Bugloss, Bisfort, Tormentil.*
Woods, *all the Sanders.*
Leaves, *of Borage, Bugloss, Sorrell, sharp pointed Dock.*
Seeds, *of Quinces, Plantain, Sorrel.*
Flowers, *of Roses, Violets, Borage, Bugloss, Water-lilly.*
Fruits, *Citrons, Limons, sowre Cherries, Ribes, sowre Granates, sweet Apples, Quinces.*
Gums, *Camphire.*
Animals, *Pearl, Unicorns horn, the bone in the heart of a Stag, Ivory, Spodium, Harts-horn, Bezoar-stone.*
Minerals, *Terra sigillata, bole Armoniack, precious fragments, Gold, Coral.*

Compounds.

Water, *of Roses, Borage, Bugloss, Sorrel.*
Syrups, *of Granats, Limons, Violets, of the juice of Sorrel, of dry'd Roses, of fragrant Apples.*
Conserves, *of the flowers of Borage, Bugloss, Roses, Violets, and leaves of Sorrel.*
Confection, *of Hyacinth.*
Electuaria, *cold Diamargarite, Diatriasantalum.*

Chap. XXII.

Of Hepatical Medicaments.

Hepatical Medicaments are destined to comfort the Liver, and to correct the distempers thereof: some of them being heating, others cooling.

But because all sorts of humours are bred there, and the veins thereof are very narrow, it is very subject to obstructions. And therefore all Medicaments convenient for the Liver, are of an opening quality.

Hot

Hot Hepaticals. Simple.

Roots, *of Calamus Aromaticus, Ciperus, Elecampane.*
Leaves, *of Agrimony, Wormwood, Mint, Germander, Ground-pine, Betony, lesser Centaury.*
Seeds, *of Anise, Fennel, Carawaies, Ammi, or Bishopsweed.*
Flowers, *of Rosemary, Mace, Squinanth, Spikenard.*
Fruits, *Cloves, Nutmegs, Raisins.*

Compounds.

Waters, *of Wormwood, Mint, Betony.*
Syrups, *of Mint, Wormwood, Byzantine, of the five Roots.*
Conserves, *of the flowers of Sage, Rosemary, peel of Citron candied, root of Elecampane candied, Acorus candied, Walnuts candied, Nutmegs candied, Mirobalans candied.*
Confections, *Treacle, Mithridate.*
Electuaries, *Aromaticum Rosatum, Diambra, Diarrhodon.*
Troches, *of Wormwood, Rhubarb, and Eupatory.*

Externals.

Oyl, *of Wormwood, Mint, Nard.*

Cold Hepaticks. Simple.

Roots, *of Grasse, Asparagus, Succory, Sorrell, Knee-holy.*
Woods, *all the Sanders.*
Leaves, *of Endive, Succory, Scariola, Chondril, Liverwort, Maiden-hair, Sorrel, Lettice, Purslain.*
Seeds, *the four greater cold ones. the four lesse cold seeds, viz. Lettice, Purslain, Endive, and Cichory, the seed of Sorrel.*
Flowers *of Roses, Water-lilly, Succory.*
Fruits, *sowre Prunes, sowre Granats, Gourds, Ribes, Cucumers.*
Juices, *of Limons, Granates, Quinces, Endive, Sorrel, Succory, Vinegar, sowre Grapes.*
Animals, *Ivory, Spodium.*
Minerals, *Corall.*

Compounds.

Waters, *of Succory, Endive, Grasse, Sorrel, Roses, Agrimony.*
Syrups, *both simple and compound of Succory, of the juice of Sorrel, of Granats, of Limons, of dry Roses.*
Conserves, *of flowers of Succory, of leaves of Sorrel, of Roses, of Barberies, sowre Cheries preserved.*
Electuaries, *Diatriasantalum, Diarrhodon Abbatis, cold Diamargarite.*
Troches, *of Spodium, of Caphura.*

Externals.

Externals.

Oyl, *of Roses, of sowre Grapes, of Water-lillies.*
Oyntments, *of Roses, Santaline Cerecloth, Refrigerans Galeni.*

Chap. XXIII.

Of Stomachical Medicaments.

THE action of the stomack is offended many waies, either in not desiring nourishment, or ill concocting it, or by not retaining it duly.

The appetite is spoiled, when the ventricle, and especially the upper orifice thereof, is stopped with any excrementitious humour. The concoction is hurt, by a diminishing of the heat of the stomack. The retention thereof is weakned by a loosnesse of the part which is succeeded by vomiting and scowring.

The appetite is raised by Medicaments which cleanse away the noxious humours, preserving the strength of the part, and by a gentle griping of the part, cause a feeling of divulsion, such are things sharp and salt. Some things help concoction by a specifical property, others by a moderate heat and Aromatical vertue.

The retentive faculty is confirmed by proper astringents.

These stomachical Medicaments are also either hot or cold.

The functions of the ventricle, as also of the other parts, are hurt by divers distempers, which indicate generally the removal thereof, and therefore among the stomachicals those are to be chosen, which as they corroborate the part, so also they serve for the general indication, correcting this or that distemper.

Hot Stomachicals. Simple.

Roots, *of Ginger, Cyperus, Calamus Aromaticus, Galanga.*
Rindes, *of dry Citron, Cinamon.*
Woods, *Xyloaloes.*
Leaves, *of Mint, both Wormwoods, Sage, Betony, Rosemary.*
Seeds, *of Anise, Fennel, Corianders, Citrons, Pepper.*
Fruit, *Cloves, Nutmegs.*
Flowers, *of Sage, Rosemary, Betony, Mace, Saffron.*
Gums, *Mastick.*
Minerals, *Succinum, Amber.*

Compounds.

Waters, *of Betony, Wormwood, Mint, Sage.*
Syrups, *of Mint, of Pontick Wormwood.*
Conserves, *of flowers of Sage, Rosemary, flowers of Wormwood, peels of Citron candied, Nutmegs candied, Mirobalans candied, Ginger candied, Acorus candied.*
Confections, *Treacle, Mithridate, Alkermes.*
Electuaries, *Aromaticum Rosatum, Diambra, Diagalanga.*
Troches, *of Wormwood, of Rhubarb.*

Externals.

Oyls, *of Nard, of Wormwood, Mint, Nutmegs, Maſtick, Myrtle.*
Emplaiſters for the ſtomack, *of Maſtick.*

Cold Stomachicals. Simple.

Roots, *of Plantain, Sorrel.*
Woods, *red Sanders.*
Leaves, *of Plantain, Myrtle.*
Seeds, *of Plantain, Quinces.*
Flowers, *of red Roſes, Pomegranate.*
Fruits, *Quinces, Pears, Medlers, Myrtle-berries.*
Juices, *Acacia, Hypociſtis.*
Minerals, *Coral.*

Compounds.

Waters, *of Roſes, Plantain, Sorrel.*
Syrups, *of dry'd Roſes, Quinces, Granates, of Myrtle, of the juice of Sorrel, of Agreſta.*
Conſerves, *of red Roſes, of the leaves of Sorrel.*
Electuaries, *Diatriaſantalum.*

Externals.

Oyle, *of Roſes, Maſtick, ſowre Grapes.*
Oyntments, *Santaline Cerecloth, of Roſes.*

Chap. XXIV.

Of Splenetick Medicaments.

THoſe Medicaments are for the moſt part deſtin'd to the Spleen, which prepare the melancholy humour, becauſe the ſpleen is the receptacle of melancholy.

But ſometimes that melancholy hath a natural quality, and is cold, thick, and earthy, cauſing obſtructions, and then requires opening Medicaments, cutting and cleanſing, and ſometimes ſoftening, when the hardened humour produces a Scirrhus.

Sometimes it is burnt by over much heat, and hath the qualities of black choler, and then it requires thoſe Medicaments, which we have mentioned before as idoneous for the preparation of black choler.

Hot Spleneticks. Simple.

Roots, *of Smallage, Elecampane, Orrice, Calamus Aromaticus, Birthwort.*
Rindes, *of the roots of Cappars, the middle rinde of Aſh-tree, the middle rinde of Tamaris, Cinamon.*

Leaves,

Leaves, *of Germander, Dodder, Spleenwort, heads of Hops, Tamaris, Penny-royal, Thyme, Water-cresses, Fumitory, Centaury the lesse, Balm.*
Seeds, *of Agnus Castus, Water-cresses, Anise, Smallage, Carduus benedictus.*
Flowers, *of Broom, Marygolds, Tamaris, Saffron.*
Fruits, *Cappars.*
Gums, *Ammoniack, Bdellium, Myrrh.*
Minerals, *Steel.*

Compounds.

Waters, *of Fennel, Fumitory, Balm, Carduus benedictus, Cinamon.*
Syrups, *of Fumitory, of 5. roots, simple Oxymel, Oxymel of Squils.*
Conserves, *of flowers of Tamaris, Broom, Acorus candied, Ginger candied, Citron peel candied.*
Confections, *Alkermes.*
Electuaries, *de Gemmis, Letificans Galeni.*
Troches, *of Cappars, of Euphorbium.*

Externals.

Oyls, *of Cappers, Tamaris, Orrice, Rue.*
Oyntments, *of Arthanita or Sowbread, of Marsh-mallowes.*
Emplaisters, *of Mucilages, of Melilot, Diachylum, with Gums.*

Cold Spleneticks.

They are almost the same with those that attenuate choler, which we here omit, for that they may be fetched from thence, to which may be added those Medicines that prepare adust choler.

Chap. XXV.

Of Nephritick Medicaments.

Medicaments that are prepared for curing affections of the Reins, are said to be so, either as they provoke urine, or temper the heat of the reins, or as they break the stone, or as they cleanse away the sand and viscous humours contained in the Reins.

Those things which move urines were proposed above, yet some things are to be added to them more peculiar to the reins.

Cold Diuretick temper all the heat of the reins, as also other simple refrigerating things which are called cold Nephriticks.

To correct the hot distempers of the Reins, Diureticks are not to be used alwaies, although they are cooling: for that distemper being succeeded by an immoderate flux of urine, other refrigerating Medicaments are to be used, which do rather incrassate or lightly binde; as Lettice, Purslain, seed of Fleabane, Gum, Tragacanth, *&c.*

Those Medicaments that break the stone, do it by a specifical property, either as they cut and attenuate, without any great heat, otherwise they would bake the stone harder; or else by their roughnesse, they cleanse away the outside of the stone, and as it were grinde it away by attrition.

Those Medicaments which cleanse away gravel and clammy humours, are taken from the Diureticks or Lithontripticks.

The matter of all these is such:

Medicaments moving Urine.

These both hot and cold were set down in the proper Chapters.

Medicines that temper the heat of Reins and Urine. Simple.

Roots, *of Althea, Liquorice.*
Leaves, *of Mallowes, Lettice, Purslain, Endive, Sow-thistle, Scariola,*
Seeds, *of Melons, Pompions, Cucumers, Althea, Mallows, Lettice, white Poppy, Fleabane, barly.*
Fruits, *sweet Prunes, Raisins, Jujubes, Almonds.*
Flowers, *of Violets, Water-lillies.*
Gums, *Tragacanth.*
Animals, *Milk, Butter.*

Compounds.

Waters, *of Lettice, Purslain, Water-lilly.*
Syrups, *of Liquorice, Jujubes, Violets.*
Conserves, *of Violets, Water-lilly, candied Lettice.*
Electuaries, *cold Diatragacanth.*

Externals.

Oyles, *of Violets, Roses, Water-lilly.*
Oyntments, *refrigerans Galeni, oyntment of Roses.*

Lithontriptick, or stone-breaking Medicaments. Simple.

Roots, *of Cammock, great Burdock, Saxifrage, golden rod, Caltrop.*
Woods, *Nephritical wood.*
Rindes, *of dry Beans, of Lawrel-roots.*
Leaves, *of Saxifrage, Caltrop, wilde Tansie, Strawberries, Pellitory of the wall, sea Fennell.*
Seeds, *of Millet of the sun, Nettles, Radish.*
Fruits, *Kernels of Cherry-stones, Peach-stones, Medlers, Juniper-berries, ivie-berries.*
Gums, *Turpentine.*
Animals, *Hog-lice, Goats bloud prepared, river Crabs eyes.*
Stones, *the Judaick, Nephritick, Crystal prepared.*

Compounds.

Waters, *of Saxifrage, Caltrop, Tobacco.*
Syrups, *Nephrocathartick of Joubertus, of Radish of Fernelius, simple Oxymel, Oxymel of Squils.*
Electuaries, *Lithontripticon, or the stone-breaking electuary.* Medi-

Medicaments cleansing away sand and viscous humours.

They are the same which the Diureticks, and such things as expell the Stone; but the most efficacious, are *Turpentine, Pellitory of the wall, Radish, Smallage, red Chiches.*

Chap. XXVI.

Of Hysterical Medicaments.

Those Medicaments with are used in affections of the womb, either corroborate it, or help conception, or forward the expulsion of the birth and secondines, or bring forth the monthly purgations, or restrain the immoderate flux of them, or purge the womb from the filth of excrements.

Those things which help conception, refresh the womb with a moderate heat, and recreate it by an aromatical vertue, and confirm it by a kinde of astriction.

Those things which exclude the birth and secundines, hasten the months also, but the stronger of them are to be used.

Those things which move the months, are hot and of thin parts, yet they dry not very much, neither do they attenuate only the bloud, but also open the mouths of the vessels.

There is a great affinity between those things which move the months, and Diureticks; but they are in this distinguished according to *Galen*, 5. *de simpl. med. fac. c.* 22. in that both are hot, but Diureticks powerfully dry, which those things that move the months do not. For those things which dry more vehemently, consume the bloud, and so steal away the matter from the months, as also thicken it, and make it lesse commodious for flux. Yet they help forward the profusion of urine; for while the bloud melted by the heat, is thickned by the dryness, there must be a separation of the serous substance, which affords matter for urine.

Medicaments hindring the flowing of the months, either shut up the passages by a binding quality, or hinder the flux by thickning the humours.

Every immoderate flux, proceeds either from a loosness of the passages, thinness, and movable nature of the humours, and therefore by binding up those passages, or by the humours acquiring a thickness and clamminesse, it is easily hindred.

Those Medicaments which purge the womb, are taken from those which move the months, especially if you chuse them which are of a cleansing faculty.

The matter of all these is this:

Simples helping Conception.

Roots, *of Calamus Aromaticus, Bistort or Shaleweed, Galingal, Ciperus.*
Leaves, *of Betony, Sage, Rosemary, Marjoram.*
Fruits, *Nutmegs, Cloves.*
Flowers, *of Sage, Rosemary, Betony, Mace, Spikenard.*
Gums, *Styrax, Bezoinum, Frankincense, Mastick.*
Animals, *Musk, Civet.*
Minerals, *Succinum, Amber, Coral.*

Com-

Compounds.

Waters, *of Sage, Betony, Marjoram.*
Conserves, *of flowers of Betony, Sage, Rosemary, Acorus candied, Walnuts candied, Nutmegs candied, Myrobalans candied, candied roots of Satyrion.*
Confections, *Treacle, Mithridate.*
Electuaries, *Diamoschum, Diambra, de Gemmis, Diagalanga, Aromaticum rosatum.*
Troches, *of Gallia Moschatæ, Aliptæ Moschatæ.*

Externals.

Oyl, *of Nard, Myrtles.*

Medicaments expelling the Birth and Secundines.

Those things which move the months, bring forth also the birth and secundines: being these in particular:

Cretian Dittanie, Mugwort, Birthwort, Saffron, Cinamon-water, Confectio Alkermes, Borax of the shops, Savine, Opoponax, Sagapenum, Myrrhe, Castor, Assa fetida.

The two latter are proper only for the secundines, because that they kill the childe with their evill smell.

Medicaments moving the Moneths. Simple.

Roots, *of both Birthworts, Madder, Valerian, Cyperus, Orrice, Gentian.*
Barks, *Cinamon.*
Leaves, *of Mugwort, Mercury, Featherfew, Nepp or Catmints, Sage, Calamint, Penyroyal, Organy, Rue, Southernwood, Horehound, Cretian Dittany.*
Seeds, *of Hart-wort, Anise, Carrots, Fennel, Rue, Carrawaies.*
Flowers, *of Camomil, Featherfew, Saffron.*
Gums, *Myrrhe, Assa-fetida, Opoponax, Sagapenum, Galbanum.*
Animals, *Castor.*
Minerals, *Borax of the shops.*

Compounds.

Waters, *of Mugwort, Cinamon.*
Syrups, *of Mugwort, Hyssop.*
Conserves and Electuaries, *are to be seen among the Diuretick.*
Troches, *of Myrrhe.*

Externals.

The Oyls, and Unguents are to be seen in the Emollients, which shall be delivered in the *second Section.*

Medicaments stopping the Months. Simple.

Roots, *of Lungwort, Snakeweed, Tormentil.*

Leaves,

Leaves, *of Plantain, Mastick-tree, Horsetail, Raspis, Purslain, Myrtle, Knotgrasse, Mint.*
Seed, *of Plantain, Sorrel.*
Fruits, *of Myrtles.*
Flowers, *of Roses, Pomegranats.*
Gums, *Mastick, Dragons-bloud.*
Animals, *Kids rennet, Harts rennet, Harts-horn burnt, Ivory, Spodium.*
Minerals, *Bole armoniack, terra sigillata, Coral.*

Compounds.

Waters, *of Plantain, Roses, Water-lilly, Purslain, Mint.*
Syrups, *of Myrtle, Mint, Quinces, dry Roses.*
Conserves, *of Roses, candied Quinces.*
Confections, *Philonium Romanum.*
Troches, *of Spodium, of Terra sigillata.*

Externals.

Oyls, *of Roses, Myrrhe, Quinces.*
Unguent *Comitissæ.*
Emplaister *of Mastick*, plaister against a Rupture.

Medicaments purging the Womb.

The same which move the months, and chiefly, *Briony, both Birthworts, Gentian, Mercury, Mugwort, Featherfew, Horehound, Germander, &c.*

Chap. XXVII.

Of Arthritical Medicaments.

THE joynts are composed of nervous parts; now there being such an affinity between the brain and the nerves; those Cephalicks, which we have shewn to be inwardly used already, may be termed rightly Arthriticks.

When the humour contained in the joynts is to be prepared by an Apozem or any other internal Medicament, the same Medicaments are to be prescribed, which are to be applyed in affections of the head, of which those are more especially to be chosen, which according to the faith of antiquity, are more agreeing and specifically proper for the joynts.

But because, affections in the joynts, are most commonly cured with Topick remedies; those are here to be set down which are most convenient for them, and so to be distinguished, that some may presently asswage the heat at the beginning, if there be any, and hinder defluxions of humour, yet not fix more deeply the humours into the part inflamed, that others may ease the pain that happens without any inflammation, and that others the pain being eased may digest the impacted humour; which are all to be severally set down.

Things

Things hindring defluxions.

Leaves, *of Henbane, Hemlock, Nightshade, Mandrakes, Sempervivum or Ever-live.*
Juices *of Henbane, Nightshade, Lettice, Vinegar, Opium.*
Gums, *Caphura.*
Mucilages, *of the seed of Flea-bane, Quinces.*
Waters, *of Roses, Plantain, Nightshade.*
Oyls *of Roses.*

Easing Pain.

Roots, *of Marsh-mallowes, Cows milk, Cows dung, Sheeps dung, Frankincense beaten with the white of an Egge, Yolk of an Egge, flowers of Camomil, Melilot, Saffron,* and many other things set down by practical Authors.

Digesting Medicines.

Roots, *of Elecampane, Hermodactyles.*
Leaves, *of Mullin, Ground-pine, Nettles, Walwort, Sage, Centaury the lesse.*
Seeds, *of Nettles, Watercresses.*
Gums, *Opoponax, Bdellium, Ammoniack, Sagapenum, Galbanum, Euphorbium.*
Animals, *Castor, Live Puppies applyed.*
Liquors, *Wine, Aqua vitæ, Sea-water, water of Sulphurous baths.*
Chymical Oyls, *of Vitriol, Wax, of Bricks.*
Emplaisters, *of Mucilages, of Melilot, Oxycroceum, Diapalma.*

Chap. XXVIII.

Of Medicaments, increasing and diminishing Milk.

Medicaments fit to increase Milk, according to Galen, de simpl. med. fac. c. 22. *moderately heat, but dry not, for by heating they attenuate the bloud, that it may the better be carried to the Breasts, neither do they diminish the plenty thereof by drying, which must be very much for the generation of milk.*

Things that increase Milk, have the same qualities with those things that move the moneths, though as to the effects these do seem much contrary to the other; for as often as the months are excited to flow, so often is the generation of milk impeded. But in this they differ, that those things which move the months are hotter then those things which increase milk, and more attenuating. For in the generation of milk, there is an expulsion of the bloud to the breasts; and an attraction from the same, but in the vacuation of the months, there is only an expulsion to the womb; so that the bloud ought to be more attenuated; and the remedies hotter and dryer, so *Gal. c.* 21. *l.* 5. *de med. fac.* will have Dill, Fennel, and Rocket, as being green and moist herbs, most proper to increase milk, but being dry to move the months; because then they do heat and dry more.

They diminish the plenty of milk, which by drying consume the bloud, or by refrigerating and incrassating, render it unfit to be carried to the breasts.

The matter of all these is this:

In-

Increasers of Milk.

Green Fennell, seed of the same, green Dill, Smallage, powder of Crystal, decoction of Colewort, Butter taken with Milk and Fennel.

Decreasers of Milk.

Mint, Celandine the greater, Calamint, Corianders, Basil, sowr Grapes, Vinegar, Oxymel, Camphire.

Chap. XXIX.

Of Medicaments, increasing or diminishing Seed.

Those Medicaments increase Seed and provoke lust which are hot and windy without exsiccation.

Those things decrease Seed and blunt the sharp prickings of venery, which do either immoderately cool, or by immoderate exsiccation do consume the seminal matter. They are these:

Increasers of Seed.

Seeds, *of Rocket, Turnep, Nettles, Mustard, Pepper.*
Fruits, *Pistachias, Pine-kernels.*
Animals, *Scincus, Sparrows brains, Cocks stones.*

Decreasers of Seed.

Lettice, Purslain, Camphire, Mint, Rue, seed of Agnus Castus, Dill.

Chap. XXX.

Of Medicaments discussing Wind.

Medicaments discussing wind, heat and attenuate, and resolve the humours proceeding from cold matter by Diaphoresis.

These are not much distinguished from those that heat and attenuate flegm, and therefore are not here to be repeated.

Chap. XXXI.

Of Astringent Medicaments.

Astringent Medicaments are cold and dry, and of an earthy substance, which causes them to contract, gather, and condense the parts.

This Theorem is most certain of simple astringents, which are endued with those qualities; yet there are other Medicaments, with which other faculties have also an astringent quality, through the various condition of the substance, as there are many astringents which are hot, as *Wormwood, Mastick, Vitriol*, and others of this nature.

What ever things were proposed before for the stopping of the Months, *the same are astringents, and therefore not to be here repeated.*

Chap. XXXII.

Of Medicaments that kill the Worms.

Whatever Medicaments are bitter, sharp, sowr, astringent, or oily, are good to kill the Worms.

Bitter, sharp, and sowr things, with their tenuity pierce the substance of the worms and dissolve them; Astringents, by shriveling them up together: Oily Medicaments by stopping their pores hinder transpiration, by which only they live, and so they choke them. Yet 'tis most certain, that there are some Medicaments which kill the worms, not only by manifest qualities, but by a specifical property. For example, Mercury, which only applied to the belly in oyntments, effectually kils the worms in the guts; and being inwardly and in due quantity taken, and rightly prepared, it works wonders. Also raw Mercury, beaten for some time in fair water, communicates its vertue in some measure to it, so that the fair water be so used as ordinary drink, is very efficacious to kill the worms.

The matter of those things that kill the Worms, is this:

Simples.

Roots, *of Grasse, Cowslips, Setwall, white Dittany, Gentian, Angelica, Mulberry, Rhubarb.*
Leaves, *of Purslain, Cichory, Sorrel, Wormwood, Water-germander, St. Johnswort, lesser Centaury, Vervain, Hoarhound, Cretian Dittany.*
Seeds, *of Citron, Tansie, Coleworts, Lupines, bitter Almonds.*
Juices, *of Limons, Granates, Purslain, Aloes.*
Animals, *shavings of Ivory, Harts-horn.*

Compounds.

Powder against the Worms, *Hiera picra.*
Chymicals, *Spirit of Sulphur, Vitriol, Mercurius dulcis.*

Chap. XXXIII.

Of Medicaments for Wounds.

Medicaments for Wounds, are those which by gently binding, and drying do forward the conglutination of the wounds.

Wounds

Wounds are not only cured by external and topical Medicaments, but also by internal, which being taken do forward the closing of the wounds, of which vulnerary potions are often made.

The matter of them is this:

Roots, *of Lungwort, round Birth-wort, Setwall, Tormentil.*
Leaves, *of Periwincle, Burnet, Sanicle, Bugle, Mousear, Pauls Betony, Agrimony, Centaury the lesse.*
Seeds, *of Carduus benedictus.*
Animals, *River Crabs.*

THE FIFTH BOOK,

The *second Particle* of the *second Part* of the *first Section.*

Of External Medicinal matter.

Chap. I.

Of refrigerating and repelling Medicaments.

IN the External parts do often happen Inflamations, Erysipela's, Ringworms, Carbuncles, and such like affections, which must be cured by the applying of cooling things, especially at the beginning.

And because these affections proceed most commonly from defluxions; therefore those Medicaments in the beginning ought to repell, that they may hinder the flux of the humours, and keep them from the part affected.

But Medicaments repell as they have a binding quality, of which we treated when we discoursed of internal Astringents.

But because external refrigerating, and repelling Medicaments, differ much from the internal, therefore they shall be set down here in order.

Refrigerating Medicaments. Simple.

Rindes, *of the roots of Nightshade, Mandrake.*
Leaves, *of Lettice, the 4. sorts of Endive, Henbane, Duck-meat, Navilwort.*

The foresaid do only refrigerate; these that follow do also by refrigeration gently binde.

Purslain, Knotgrasse, Plantain, Privet, Nightshade, Semper-vivum or Ever-live, Mandrake.
Seeds, *of Fleabane, white Henbane, white Poppy, the greater and lesse cold seeds.*

Flowers, *of Roses, Violets, Water-lillies.*
Juices, *of Granates, Lettice, Purslain, Sempervivum, Nightshade, Plantain, Limons, Vinegar, sowre Grapes.*
Animals, *the white of an Egge.*

Compounds.

Waters, *of Nightshade, Water-lilly, Roses, Plantain, Knotgrasse.*
Oyls, *of Roses, Violets, Water-lilly, Poppy, Henbane, Mandrake.*
Oyntments, *of Roses, Santaline Cerecloth, refrigerans Galeni, of Poplar.*

Repelling and Astringents. Simple.

Roots, *of Snakeweed, Lungwort, Tormentil, Reapontick.*
Rindes, *the middle rinde of Sumack peels, Granates, green Walnuts, Acorn cups.*
Leaves, *of Vines and Tendrels of the same, Myrtle, Cyperus, Oak, Olive-tree, Sumack, Knotgrasse, Shepherds purse, Horetail, Plantain, Wormwood, Mint, Mullin, tops of Bramble.*
Seeds, *of Purslain, Plantain, shepherds purse, Dyers grains, Grape-stones.*
Flowers, *of red Roses, grounds of distilled Roses, Pomegranates.*
Fruits, *Myrtle-berries, Cypresse-nuts, unripe Galls, Medlers, Services, Quinces.*
Juices, *of Plantain and of the foresaid Herbs, Acacia, Hypocistis.*
Gums, *Mastick, Dragons-bloud, Frankincense, Sandarach, Tragacanth, Sarcocol, Gum Arabick.*
Minerals, *Bole Armoniack, Terra sigillata, Alum, Coral.*

Compounds.

Waters, *of Roses, Plantain, Nightshade, Peculi rosarum, of the rindes of Nuts.*
Oyls, *of Roses, sowr Grapes, Myrtles, Mastick, Lentisk, Wormwood, Mint.*
Oyntments, *de Comitissa.*
Emplaisters, *against Ruptures, of Crusts of Bread.*

Chap. II.

Of Emplasters.

Emplasters, are something near the nature of astringents and repellents, and are convenient in defluxions, and eruptions of bloud out of any part. For they are of a glutinous and fat substance, whereby they stick fast to the part, and obstruct the pores thereof, so that the flowing humour cannot passe through them, then by compressing the part they drive the humour another way.

Of these some are simply such, having no other manifest quality, and some also do dry or bind withall, and indeed the greatest part of them have these two qualities joyned together.

The matter of them is this:

Sim-

Simples.

Meal, *of Wheat, Beans.*
Juices, *Amylum, or unground Wheat.*
Gums, *Mastick, Sanguis Draconis.*
Animals, *the white of an Egge, Mummie.*
Minerals, *the Bloud-stone, Coral, terra Sigillata, bole Armoniack, Parget, Litharge, Ce-Pompholyx, Cadmia, Lapis Calaminaris, Antimony, Alum, Lead.*

Compounds.

Unguents, *white oyntment of Rhasis, of Litharge, nutritum, Diachalcitheos, Dia-pompholygos, Desiccativum rubrum, or drying red oyntment.*

Chap. III.

Of Medicaments that ease pain.

PAin afflicting the parts of the body uses to be asswaged three waies, either by taking away the efficient cause, or by stupifying the sense with Narcoticks, or by the use of those Medicaments which are properly called Anodyne.

Now those are called Anodyne or Paregorical, which ease pain, the cause and the disease still remaining.

This they do by a kinde and moderate heat, by which the part affected is cherished and reduced to an evenness, the skin is relaxed, and the pores opened, that by it a certain portion of the matter may be resolved.

The matter of them is this:

Simples.

Roots, *of Althea, Mallowes, Lillies.*
Leaves, *of Mallowes, Althea, Bears-breech.*
Seeds, *of Hemp, Fenugreek, Marshmallowes.*
Flowers, *of Lillies, Camomil, Melilot.*
Meal, *of Hemp-seed, Fenugreek.*

Compounds.

Oyls, common, *of sweet Almonds, Lillies, Camomile, Dill, of Flower-de-luces, of the whites of Eggs.*
Oyntments, *Dialthea, Resumptive.*

Chap. IV.

Of Narcotick Medicaments.

NArcotick Medicaments ease pain, by stupifying the part, and taking away the sense thereof; or by causing sleep, which takes away the feeling of the body. This effect they are said to produce by an extraordinary coldness, which they have in the fourth degree, according to the ancient doctrine of *Galen*; but many modern Authors do think, that they take away the sense, and provoke sleep, not simply by coldness, but by a peculiar faculty, and specifical quality, which they call a Narcotick vertue.

The use of them is not admitted, unless after Anodynes tryed in vain.

The matter of them is this:

Simples.

Roots, *of Mandrake, Henbane.*
Leaves, *of Henbane, Hemlock, Mandrake, white Poppy.*
Seeds, *of Henbane, white Poppy.*
Juices, *of Lettice, Hemlock, Henbane, Opium.*

Compounds.

Opiates, *Philonium Romanum, Requies Nicolai.*
Oyls, *of Mandrake, Henbane, white Poppy.*
Chymicks, *Laudanum, Opiaticum.*

Chap. V.

Of Emollients.

ALL hardness is produced by three causes, dryness, tension, and concretion.

Those things which are dry'd, are harder; those which are repleted, are stretched, and resist the touch, are called hard; those things also which are condensed by cold, obtain a hardness, as appeareth in yce.

All these kinds of hardnes happen to our bodies. For the humours contract a drineſſe by a long action of heat, or resolving medicaments: because the more thin and moist parts are dissipated, and the thicker and dryer remain. By the multitude of humours, the parts are stretched and repleted. Lastly, humours naturally cold, and destitute of proper heat, or setling in a part labouring with a cold distemper, condense of themselves and harden.

That hardness which arises from dryness, is cured by humectation; that which comes by repletion, is cured by evacuation; that which comes by concretion, is taken away by those things which are properly called Emollients.

Now true and right Emollients, are very like to Anodynes; endued with a moderate heat and dryness, according to *Galen*, 5. *de simpl. med. fac. c.* 8. being de-

destitute of all acrimony, or corroding quality, whereby they melt the humour congealed by cold, and so take away the hardnesse thereof.

The matter of them is this:

Simples.

Roots, *of Mallowes, Althea, Lillies, Flower-deluce, Briony, Wallwort, wilde Cucumers.*
Leaves, *of Violet, Pellitory of the wall, Bears-breech, Mallowes, Althea, Orach, Walwort.*
Seeds, *of Hemp, Fenugreek, Mallowes, Althea.*
Flowers, *of Camomil, Melilot, Lillies.*
Fruits, *fat Figs.*
Gums, *Turpentine, Ammoniack, Bdellium, Styrax, Galbanum, Opoponax.*
Animals, *Butyr, Hogs-fat, Hens, Goose-grease, Sheeps-dung, Harts-marrow, marrow of Veal.*

Compounds.

Oyls, *common, of Lillies, Violets, Wormes, of Camomil, Hemp, Flower-delutes, Whelps.*
Unguents *of Althea, Resumptive.*
Emplaisters, *the great Diachylum, of Mucilages, of Melilot, of the son of Zacharias, Ceroneum, Oxycroceum, of Frogs.*

Chap. VI.

Of Resolving Medicaments.

Resolving Medicaments, are hotter then Emollients; also they have a thin substance, so that they easily penetrate, dilate the pores of the skin, attenuate the humours, and convert them to vapours, so that they may be evacuated by insensible transpiration, or Diaphoresis.

The matter of them is this:

Simples.

Roots, *of Elecampane, Orris, Carrots, Birthwort, Galingal.*
Leaves, *of Marjoram, Wormwood, Hyssop, Calamint, Penny-royal, Origan, Lawrel, Rue, Savoury, Sage, Rosemary.*
Seeds, *of Carrots, Cumin, Dill, Fenugreek, Hemp, Nigella, Anise, Fennel.*
Fruits, *Lawrel-berries, Juniper-berries, Pepper.*
Flowers, *of Stœchas, Hyssop, Lavender, Dill, Camomil, Melilot.*

Compounds.

Oyls, *of Dill, Rue, sweet Almonds, Cappars, Scorpions, Nard, St. Johns wort, of Foxes, Turpentine, of Spike.*
Oyntments, *of Agrippa, Aregon, Martiate.*
Emplaisters, *of Sulphur, of Lawrel-berries, Diachylum ireatum.*

Chap. VII.

Of attracting or drawing Medicaments.

Attracting Medicaments are hotter then resolving, and being applyed to the skin, they draw forth the humours lying in the deep parts of the body and discuss them.

But though they do obtain this faculty for the most part from the heat and thinnesse of the parts; yet they perform it also by a certain natural property, as Dittany is said to draw forth arrowes out of the body; others from the likenesse of the substance, as a Scorpion being laid upon a wound caused by it self, draws the venom to it self.

The matter of drawing Medicaments is this:

Simples.

Roots, *of both Birthworts, Pellitory of Spain, Thapsia, Hermodactyles, Orrice, Hellebore, Cyclamine, Anacardium.*
Leaves, *of Pimpernel, Calamint, Sopewort, Nettles, Setwall.*
Seeds, *of Thlaspi, Mustard, Watercresses, Nettles.*
Fruits, *Colocynth.*
Juices, *Elaterium.*
Gums, *Pitch, Euphorbium, Ammoniack.*
Animals, *Castor, Pigeons dung, Cocks dung, Goats dung.*
Minerals, *Sulphur.*

Compounds.

Oyls, *Balanine, of Mustard.*
Emplaisters, *of Melilot, of Lawrel-berries, Sulphur, Oxycroceum.*

Chap. VIII.

Of Suppurating Medicaments.

Suppurating Medicaments are moderately hot and moist, and like to the temper of the part to which they are applyed, and so they increase the natural heat thereof, where by the putrifying bloud is concocted and changed into true purulency.

In our bodies there use to be but three sorts of alterations, according to *Galen*, 5. *de simpl. med. fac. cap. 6.* *One* is plainly natural, when the meat is concocted for nourishment in the ventricle, liver, and other parts. The *other* is wholly preternatural, when the substances contained in the body contract putrefaction. The *third* is partly natural, partly preternatural, and is called *Suppuration.* For when the bloud contained in the part, by contracting a putrefaction, hath obtained a preternatural heat, it is altered and concocted by the natural heat of the part, so that both heats working together, neither a perfect concoction, nor absolute putrefaction is produced, but a middle operation, called Suppuration, by which the hu-

humour is not made fit for nourishment, but is reduced to a certain moderation of substance and qualities, more consentaneous to nature. But now the Medicaments which promote suppuration are those, which increase the natural heat, and cause it to be more vigorous in exerting its strength. Such are those which have a heat like that heat of the part to which they are applyed; and so cherish it and make it more vigorous.

Those are very like emollient Medicaments; yet distinguished in this by *Galen's* testimony, that Emollients are hotter and dryer, and so consume some of the humour contained in the part; but suppurating Medicaments being more temperate, keep in the whole moisture.

Moreover, suppurating Medicaments being exactly such, ought to be Emplastick, for that the heat may be retained in the part, the pores thereof ought to be obstructed, lest a dissipation should be made through them: now it is proper for emplastick Medicaments to shut up the pores.

The matter of suppurating Medicaments:

Simples.

Roots, *of Althea, Lillies, Onions* bak'd under the ashes in tumours, that hardly come to suppuration, very efficacious.
Leaves, *of Mallowes, Althea, Bears-breech, Coltsfoot, sowr Dock.*
Seeds, *of Althea, Fenugreek.*
Flowers, *of Camomil, Melilot.*
Gums, *liquid Pitch, Turpentine, Rosin, Ammoniack, Bdellium.*
Meals, *of Wheat, Hemp, Fenugreek.*
Animals, *Butter, Sheeps dung, Hogs, Calves, Capons, Goose grease, Harts marrow, Calves marrow, yelk of an Egge.*

Compounds.

Oyls, *of Lillies, Camomil, Flower-deluces, common Oyle, Hydreleum.*
Oyntments, *Basilicum, of Althea, Agrippa, Resumptivum.*
Emplasters, *Diachylum magnum, of Mucilages.*

Chap. IX.

Of cleansing Medicaments.

To cleanse away the matter, corruption, and other filth of broken impostumes, or unclean ulcers, we use cleansing Medicaments, which by their roughnesse and nitrous quality, remove the matter impacted in those parts.

The cleansing faculties depend not on the first qualities, for cleansing Medicaments are both hot and cold; but on a roughnesse and nitrous quality, which being joyned with heat, works more powerfully; because the clammy matter sticking to the part, being attenuated by the heat, is more easily cleansed away.

The matter of these cleansing Medicaments is this:

Simples.

Roots, *of Smallage, Orrice, both Birthworts, Gentian.*
Leaves, *of Wormwood, Centaury the lesse, Horehound, Smallage, agrimony, Plantain, Pimpernell.*
Seeds, *of Smallage, Plantain.*
Juices, *of the foresaid leaves, Wine.*
Meal, *of Lupines, Beans, Fenugreek, Barly, Hemp.*
Gums, *Turpentine, Aloes, Frankincense, Myrrhe.*
Animals, *Hony, Urine.*
Minerals, *Burnt Vitriol, Rust, Salt-peter.*

Compounds.

Syrups, *of dry Roses, Hony of Roses.*
Oyls, *of Myrrhe, Tartar, yolks of Eggs, of Elder.*
Oyntments, *Aureum, of Elicampanes, Apostolorum, Ægyptiacum, cleansing oyntment of Smallage.*
Emplasters, *dejanua, gratia Dei, Divinum.*

Chap. X.

Of Sarcotick Medicaments.

Sarcotick Medicaments are those which promote the generation of flesh wanting in an ulcer or wound.

This they perform by moderately drying and gently cleansing the filth of the ulcers; therefore they are to be moderately hot and dry, and void of all acrimony; for if they were hotter, and more acrimonious, they would melt the flesh; if cold and astringent, they would cicatrize the wound before the ulcer were filled with flesh.

It is the proper office of nature to generate flesh by the assimilation of the nourishment, but *Sarcotick* Medicaments cannot perform that of themselves, but only help the action of nature, removing the impediments; for filth and superfluous moisture abounding in an ulcer, are wont to hinder the generation of flesh; hence by gently drying and cleansing Medicaments, the ulcer is purified, and disposed for the action of nature endevouring the generation of new flesh.

The matter of Sarcotick Medicaments is this:

Simples.

Meals, *of Fenugreek, Tares, Lupines.*
Gums, *Frankincense, Pitch of both sorts, Turpentine, Sarcocoll, Aloes, Myrrhe.*
Minerals, *burnt Lead, Ceruse.*

Com-

Compounds.

Unguents, *Basilicon, Aureum, Pompholygos, Apostolorum.*
Emplasters, *de Janua, de gratia Dei, divinum, of Betony.*

Chap. XI.

Of Cicatrizing Medicaments.

Cicatrizing Medicaments, are those which make the flesh of the ulcer like skin, by much drying and binding it.

That the flesh being divested of skin may be cicatrized, the outward superficies thereof must be very much bound, contracted, and dryed; so that cicatrizing Medicaments being drying and binding, seem to be near allied to agglutinating Medicaments; yet they differ in this, that cicatrizing Medicaments more powerfully dry and binde; for they do not only consume that which flowes into the flesh, and is excrementitious moisture, but also they dry the very substance of the flesh, and turn it almost into the nature of the skin.

The matter of Epuloticks is this:

Simples.

Plants, *Malicorium, Plantain, Myrtle, Balaustia, Roses.*
Minerals, *Bole Armoniack, terra Sigillata, Litharge, Ceruse, Lapis Hæmatites, Calaminaris, Cadmia, Pampholyx, drosse of Iron, burnt Lead, Squama æris, burnt brasse, burnt Antimony, Lime, burnt Allum, burnt Vitriol.* The six latter must be well washed till they have lost their acrimony.

Compounds.

Unguents, *white oyntment of Rhasis, red Desiccativum, Diapompholygos.*
Emplastrum, *de Cerussa, of the stone Calaminaris, Diapalma, Paracelsus.*

Chap. XII.

Of Medicaments stopping Bloud.

Those Medicaments which stop the bloud flowing from any part, use to be of three sorts; for they either do it by a peculiar property; or as they are Emplastick, and stop the open veins, or as they burn and sear the wounded part and cover it with a crust.

The matter of the most principal of them is this:

Roots, *of Lungwort, Cinkfoyl.*
Leaves, *of Knotgrasse, Burnet, Horsetail, Plantain, Peruwinkle, Nettles.*
Fruits, *Galls.*

Flowers, *of Pomegranates.*
Juices, *of Vinegar, sowr Grapes, Acacia, hypocistis.*
Gums, *Mastick, sanguis Draconis, Frankincense, Myrrhe.*
Animals, *Gluten, Mumy, white of an Egge.*
Minerals, *Bole Armoniack, terra sigillata, the stone Hematites, Jaspis, Coral, Alum, Vitriol.*
This is perform'd by all Emplasticks also, though lesse efficaciously.

Chap. XIII.

Of glutinating Medicaments.

Glutinating Medicaments are those which close the lips of the wounds, and bring them to a perfect union.
And they must be all astringent and drying.

When a part divided is contracted, it is more easily united, to which purpose it is necessary that not only that which flowes in, but that also which is more liquid in the flesh, should be consumed; and there is great need of much exsiccation, which notwithstanding must not have such an excessive heat, as either to melt the part, or hurt it with its acrimony; for thence new moisture would arise, which would hinder conglutination.

The matter of them is this:

Simples.

Roots, *of Lungwort, Tormentil, Cinkfoyl.*
Leaves, *of Lambestongue, Houndstongue, Yarrow, Vervain, Mousear, Betony, Scabious, Bugle, Sanicle, St. Johns wort, Self-heal.*
Gums, *Sarcocol, Myrrhe, Frankincense, Aloes, Turpentine, liquid Pitch.*
Animals, *Wormes, Mumy, Hares hairs cut small.*
Minerals, *Litharge of Gold.*

Compounds.

Oyls, *of Myrrhe, Tobacco, Balsama vacia.*
Oyntments, *Aureum, red Desiccative.*
Emplaisters, *against Ruptures, Triapharmacum, Nigrum.*

Chap. XIV.

Of Vesicating Medicaments.

VEsicating Medicaments do very much heat the extreme parts of the skin and attract the serous humours to it; and burning the cuticle, they pluck it from the skin under, which causes bladders.

They are also exceeding hot, of a thin and almost fiery substance, so that they easily

easily inflame the part to which they are applyed, and cause bladders thereon, from which they received their appellation.

The matter of them is this:

Simples.

Roots, *of Thapsi, Pellitory of Spain.*
Seeds, *of Mustard, Stafesagre.*
Gums, *Euphorbium.*
Animals, *Pigeons dung, Cantharides.*

Compounds.

Emplastrum *Vesicatorium.*

Chap. XV.

Of gnawing Medicaments.

CAtheretick Medicaments, consume superfluous flesh increasing in ulcers, polypusses, and warts.

They are most hot, even in the fourth degree, also of a thin and burning substance, by which they consume all those superfluities; lesse vehement then vesicating Medicaments, which appears for that Catheretick Medicaments laid upon the bare skin do not alter it, but only they easily inflame naked flesh which is much more soft; but Vesicatories easily inflame the part to which they are applyed.

The matter of them is this:

Simples.

Burnt Pumice stone, parched Salt, burnt Allum, burnt Vitriol, burnt Antimony, or Crocus metallorum, Rust, Squamma æris, preciptated Mercury, Cinabar, Pulvis Sabinæ.

Compounds.

Oyl, *of Vitriol and Sulphur, Aqua secunda, Unguentum Apostolorum, Ægyptiacum.*

Chap. XVI.

Of Caustick.

CAustick Medicaments, not only burn the cuticle, but the true skin it self and flesh under it, producing in it a crust which is separated from the part, and fals away, leaving a profound ulcer therein.

These

These are truly called *Pyroticks*, because they have a fiery nature, and a thick substance, which makes them burn the more vehemently; for fire in a thicker substance burns the more fiercely.

The matter of them is this:

Calx viva, burnt brasse, sublimate Mercury, Arsenick, the common Caustick of the Chirurgeons, the gummy Liquor which is drawn out for the confection of Mercurius vitæ.

THE SECOND SECTION of the SECOND PART OF *THERAPEUTICKS.*

Of the Composition of Medicaments.

The PROEME.

COmpounded Medicaments are threefold, internal, middle, and external. Internal, are those which are taken inwardly.

Such are Apozemes, Potions, Juleps, Syrups, Emulsions, Boles, Opiates, Tablets, Powders, Troches, Pills, &c.

Middle ones, are those which are taken neither within the body, nor are applyed to the superficies thereof, but are thrust into several concavities of the body.

Such are Suppositories, Clysters, Insections, Pessaries, Errhines, Gargarisms, Masticatories, Collyriums, &c.

External, are those which are moved and applyed to the external parts.

As Epithems, Fomentations, Baths, Oyls, Unguents, Emplasters, Cataplasms, Sacculets.

Therefore this Section shall comprehend three Articles:

In the first, *the manner of composing internal Medicaments shall be shewn: In the* second, *that of the middle ones: in the* third, *that of the external ones.*

THE

THE FIRST ARTICLE of the SECOND SECTION: OF *The Composition of internal Medicaments.*

CHAP. I.

Of an altering Apozeme.

An Apozeme is a liquid form of a Medicine composed of the decoction of many simples, sweetned with sugar or hony, clarified, and aromatized, prepared into 3, 4, or 5. doses to alter or purge.

Therefore it is twofold, Altering, and Purging.

An altering Apozeme is composed of roots, barks, woods, leaves, seeds, fruits, and flowers, the quantity of which is usually as followes:

Of Roots, ℥ iiij. or vij.
Rinds, ℥ j. or ℥ ij.
Woods, the same quantity.
Leaves, m. v. or viij.
Seeds, ℥ j. or ℥ j. ß.

Of lesser fruits, as Raisins, ℥ j. Sometimes they are measured by number, to 12. or 16. pair; but greater fruits are measured only by number, and that even, as figs, to 7 or 8 pair; but the greatest fruits by uneven numbers, as Apples.

Of Flowers, iiij. or six pugils.

All these are boyled in sufficient liquor, which is commonly fountain, and sometimes barly water, as in cholerick affections, or thin hydromel, as in flegmy affections: sometimes in obstructions a decoction is made in equall parts of fountain water and white Wine, added at the end, or in two parts of fountain water, and one of white Wine, according to the judgement of the Physician.

The quantity of the liquor is not set down, but is prescribed in this manner, *Let a decoction be made in a sufficient quantity of fountain-water.*

But the quantity of a streined decoction ought to be set down, *viz. ad* ℔ j. for three doses, five quartaries for four doses, *ad* ℔ j. ß. for five doses in this manner, *of the strained liquor take* ℔ j. ß.

Afterwards the syrups are dissolved in such quantity, so that for every dose of Apozem ℥ j. of syrup in this manner, *in which* (*viz.* colature) *dissolve* syrup, *viz.* of Violets or Maidenhair, ana ℥ ij.

Sometimes Sugar is prescribed in the same dose, especially when any juices are dis-

dissolved which make the Apozem more efficacious. Now those juices are very commendably prescribed in an Apozem to ℥ ij. in this form, *in the strained liquor dissolve of the purified juices*, viz. of Borage or Sorrel ana ℥ j. white Sugar ℥ iij. but for the most part the quantity of Sugar is not defin'd, but it is thus prescribed, a sufficient quantity of white Sugar.

These things thus done, an Apozem is sometimes aromatized to make it more pleasant; but the most frequent and gratefull spices, are Citrine, Sanders, Electuarium Triasantali in a cooling Apozem; Cinamon in a heating Apozem; and the dose of these spices is ʒ j. ß. or ʒ ij. in this form, *Make a clarified and aromatized Apozem*; as for example, ʒ ij. of choice Cinamon, for iiij. (morning) doses.

Chap. II.

Of a purging Apozem.

A Purging Apozem is that which not only prepares the humours, but also evacuates them with one and the same labour, purging Medicaments being mixt with altering ones.

This kinde of Apozem is now very much and almost only in use; for that which simply alters, is commonly used by the name of a Julep.

And it uses to be fourfold, according to the fourfold difference of Catharticks, *viz.* Cholagogue, Phlegmagogue, Melanagogue, and Hydragogue.

It is composed of the same matter with altering Apozems, and after the same manner, only Catharticks are added with their correctives, and they are placed among the fruits and flowers in such a proportion, that there should be so many doses of Catharticks, as of the Apozem.

It is most useful to prescribe Sena as the foundation of every such Apozem, for the most part to ℥ ij. to which are added Polypodium, and seed of wilde Saffron in the same quantity, or at least to ℥ j. of each; then other Catharticks are prescribed according as the peccant humour requires, of which some are wont to be decocted, as Turbith, Hermodactyles, Agarick, Epithymum, black Ellebore, seed of Wallwort, and others are infused, as Rhubarb, Agarick, Tamarinds.

But those which are not decocted but only infused, ought to be prescribed in this form; as for example of Rhubarb infused by it self, ℥ ß. but those which are decocted, must be simply set down: but the computation of the doses ought to be so made, that one dose of Sena in decoction, should be ℥ j. of Turbith, Hermodactyles, and Agarick ℥ ß. Rhubarb infused also ℥ ß. but of Polypody, seed of wilde Saffron, and Epithyme, there is no accompt to be had, because they are of small vertue.

So when we compose an Apozem into four doses, we may prescribe ℥ ij. of Sena, Turbith, and Agarick, ana ℥ ß. for so there will be four doses of purgers, *viz.* two of Sena, one of Turbith, and one of Agarick, in the place whereof we may put others as the indication requires, the same method being still observed.

Correctives are prescribed presently after the enumeration of all the purges which for the most part are Ginger and Cloves; of each ʒ j.

In the streined decoction are dissolved the same syrups for the most part which are prescribed in altering Apozems; sometimes also, when the Apozem is supposed

posed to be not sufficiently purgative, purging syrups are dissolved, and most commonly syrup of Roses solutive, sometimes syrup of Cichory composed with Rhubarb, in cholerick affections, and syrup of Fumitory compounded with Rhubarb in melancholy affections: sometimes in the spring time juice of white Roses is dissolved, or an infusion of them is made to ʒ iiij. in cholerick affections, and then no syrups are prescribed, but only Sugar q. s.

But this is to be observed in the use of all Apozems, first that in the beginning, the humours contained in the first region be evacuated by a purgative Medicament, and that in the end the reliques of the humours be removed, which is very often done, if the first and last dose thereof be made to purge more strongly, dissolving in it, of Opiate or purging Electuary, ʒ iij. more or lesse according to the disposition of the patient; of purging syrup ʒ j. after this form, *In the first and last dose dissolve* of Electuarium Diacarthamum, *viz.* ʒ iij. syrup of Roses solutive ℥ j. mingle them and make a Potion, let it be taken according to prescription: sometimes a minorative Medicament is prescribed before the Apozem, and then those purging Medicaments are dissolved only in the last dose.

Sometimes in affections of the head, and parts very remote from the stomack pills are prescribed after the Apozem, and then nothing is dissolved in the last dose.

Chap. III.

Of a purging Potion.

A Potion is a liquid form of a Medicament to be prescribed for one dose, composed of the decoction, infusion, or dissolution of several things in fit liquor.

This is manifold according to the various indications, in which it is used, *viz.* purging, corroborating, provoking sleep, killing the wormes, helping parturition, *&c.*

A purging potion is many waies prepared; and in this three things are to be considered, 1. Decoction, 2. Infusion, 3. Dissolution.

The most usual decoction is described partly of Sena to ℥ ß. or ʒ v. Anise seed ʒ j. to correct the Sena, or Anise seed and Cloves, *ana* ʒ ß. herbs proper for the affection M. 1. ß. or ij. handfuls, of shaving of Liquorice and stoned Raisins, *ana* ʒ iij. (in almost all Potions, these two are commonly prescribed, unlesse it be in some women that abhorre sweet things); of flowers proper for the disease, pug. 1. or 2, and the dection is made to ℥ iij.

Or else the common purging decoction is to be used, which is usually had in the shops.

Sometimes in affections of the Creast, the same pectoral purging decoction is used after the same method.

The infusion is made of Rhubarb in cholerick, of Agarick in flegmie affections, or of both in mixt, and their quantity is from ʒ j. to ʒ j. ß. correctives being added, *viz.* Spikenard, or Cinamon, or citrine Sanders, from gr. vj. to ϑ ß. Skice is a corrective only to Rhubarb, Cinamon to both, but in affections lesse hot; citrine Sanders, in vehement Feavers.

The liquor wherein the infusion is to be made, is distilled water proper to the affection, or else the foresaid purging decoction.

In dissolutions, compound purgers are to be prescribed, Opiates, or Electuaries in various doses, according to the lesse or greater quantity of the purgers, which were prescribed in decoction, and infusion, and some purging syrup, as syrup of Roses solutive most frequently; sometimes syrup of Cichory compounded with Rhubarb, or compounded syrup of fumitory, which purges lesse then the forementioned syrup: the quantity of the syrup perpetually is ℥ j. sometimes in affections of the Lungs, Manna is dissolved from ℥ ß. to ℥ i. and then the quantity of the syrup is diminished to ℥ ß.

In these various manners are purging potions compounded, *viz.* either according to these three preparations, or two, or one only.

Of the three preparations, various forms are composed, according to the variety of the decoction, or infusion.

For if a magisterial decoction be to be made with infusion, the form of the prescription in that decoction shall be thus, ℞ fol. senæ, &c. *make a decoction* to ℥ iij. *in the Colature infuse* of Rhubarb, ʒ j. ß. Spikenard gr. vij. *the liquor being prest out, dissolve therein*, of Diaprun. fol. ʒ iij. syrup of Roses, fol. ℥ j. *mingle them, make a potion to be given to morrow morning with care and according to art.*

But if a magisterial decoction be to be made with an infusion in distilled water, it is to be prescribed after this manner, ℞ *make a decoction* to ℥ iij. *in the Colature dissolve* of Rhubarb infused in water of Cichory with Spike and pressed out, ʒ j. Electuary of the juice of Roses, ʒ iij. syrup of Cichory compounded with Rhubarb, ℥ j. *mingle them, make a potion to be given*, &c.

If it be to be made of a shop decoction with an infusion in distilled water, the prescription is to be made after this manner, ℞ Rhubarb Elect. and Agarick Trochischat. *ana* ϑ ij. Cinamon ϑ ß. *infuse them in* Betony *water, when it is streined dissolve* therein of Electuarium, Diacarthamum, and Diaphanick, *ana* ʒ j. ß. syrup of Roses solut. ℥ j. of common medicinal decoction purging ℥ iij. or of common pectoral purging decoction ℥ iij. *mingle them, make a potion to be given*, &c.

Note that sometimes no Electuaries are prescribed, when the Purge is gentle, but only common decoction and syrup.

Potions composed only of two preparations, are twofold, either by decoction and dissolution, or by infusion and dissolution.

Of decoction and dissolution are made Potions after this form, ℞ &c. *make a decoction* to ℥ iij. *in the Colature dissolve* of Electuaries, &c. syrup, &c. *mingle them and make a potion.*

By infusion and dissolving are made potions after this form, ℞ of Rhubarb, &c. *les them be infused*, &c. *when they are streined dissolve* of Electuary, &c. of Syrup, &c. *mingle them, and make a potion.*

Those Potions are made with one preparation which consist of simple dissolution, which is made in urgent cases, where there is not time for decoctions and infusions, and then purging electuaries are dissolved in broth or water convenient to ʒ vj. or ℥ j. in this form, ℞. *Electuary*, of Betony q. s. *mingle them and make a Potion.*

Sometimes powdered Rhubarb may be dissolved in broth for a Diarrhœa or Dysentery, in this forme, ℞ Rhubarb powdered, ʒ j. ß. *let it be given in the morning in broth*; Rhubarb also is given in broth to ʒ j to children which cannot bear more vehement Catharticks.

Manna is also given to children dissolved in broth, to ℥ j. *to those of greater age, in affections of the Lungs*, to ℥ ij.

Chap. IV.

Of Potions corroborating, provoking sleep, killing the Worms, and the like.

These Potions because they are prescribed only in one dose, are reckoned under the name of Potions, though it be now a daies a custome in Physick, that they are often called Juleps for one dose, to distinguish them from vulgar juleps, which are most commonly prescribed for three doses.

Cordial potions are made of cordial water ℥ iij. cordial syrup ℥ j. cordial confection ʒ j. cordial powder ℈ j. in this form, ℞. &c. *Mingle them, make a Potion,* (or make a julep for one dose) *to be taken* at such an hour, for every hour is fit for such a drink, but chiefly morning and evening.

Potions to provoke sleep, are made of the syrup of Poppies ℥ j. cordial water ℥ iij. confection Alkermes ʒ ß. or ʒ j in this form, ℞. &c. *Mingle them, make a potion, to be given this night at the hour of sleep.*

A Potion against the worms, is made of Purslain water, or water of Grasse ℥ iij. syrup of Limons ℥ j. confection of Hyacinth ʒ j. powder against the worms ℈ j. or some other kind of way.

In other indications the same proportion of ingredients is perpetually to be observed, that there should be of waters ℥ iij. of syrup ℥ j. confect. ʒ j. powder ℈ j. ʒ ß. or ℈ ij. at most.

Chap. V.

Of Juleps.

Juleps use to be composed two waies, either of distilled waters, or decoction of simples.

They are prescribed for the most part for 3 or 4 doses in such a proportion that for every dose there should be of waters ℥ iij. or iiij. *of syrups* ℥ j. *in this form*: ℞. of water, *&c.* Mingle them, make a Julep for three doses to be taken morning and evening.

Sometimes juices are mingled with the waters in such a proportion, that for every dose there should be ℥ ß. ʒ vj. *of juices.*

Sometime in cooling juleps, some few drops of spirits of Vitriol are prescribed, which are not set down, but used in this form, of spirits of Vitriol q. s. to cause a grateful sharpnesse.

Juleps are composed of decoctions in the same method as altering Apozems, though with a lesse dose of simples; yet they differ in this, that clarification and aromatization are not prescribed in the end, but the form of them is such. ℞. of Roots, *&c.* make a decoction to ℔ j In the Colature dissolve ℥ iij. *of syrups.* Mingle them, and make a Julep to be taken morning and evening for three doses.

Chap. VI.

Of Syrups, and first of altering ones.

There are two sorts of Syrups, Altering, and Purging.

Altering syrups are composed by the Physicians very seldome, because there are so many ready in the shops upon all occasions.

And therefore magisterial altering syrups, are never or rarely prescribed, but only those in the shops are used, and that two waies, for either they are dissolved in other liquors, or else they are administred alone.

How they are dissolved in other liquors, hath been shewn in Apozems, Juleps, and Potions.

But moreover, some syrups are usually dissolved in common water, or barly broth to quench thirst; such are syrup of Maidenhair, of Limons, of Quinces, in a flux, and they use to be prescribed in this form, ℞. *syrup* of Maidenhair, ʒ iiij. let it be used with potable water, at time of thirst without meals.

They are given alone and by themselves in affections of the stomack and lungs, chiefly in weakness of the stomack, syrup of wormwood frequently used, which is given in the morning in this form, ℞. *of syrup of wormwood* ʒ j. *take it in the morning two hours before meals, continuing so for three daies.*

In affections of the Lungs, Bechicall syrups are prescribed in this form, ℞. syrup of Coltsfoot ʒ iiij. *let it be used by frequently licking it out of a spoon.*

Chap. VII.

Of Magisterial purging Syrup.

Magisterial syrup is composed as a purging Apozeme, and of the same matter, and with a like Dose of altering simples; but the purgers are prescribed in almost a double quantity to those of the Apozem, with a double dose of their correctives also.

Sometimes very efficacious syrups are composed of the juices of herbs and fruits cleansed, in which the purgatives are infused and boyled, and those juices ought to be prescribed to iiij, v, or vj ℔. because they are much consumed by the decoction and infusion of Catharticks.

Decoction uses to be made to ℔ j. or ℔ j. ß.

And in that is dissolved Sugar as much in quantity as the decoction. Sometime purging syrups or altering syrups are dissolved to ʒ v. or vj. and then the quantity of sugar is diminished to the quantity of syrup, because syrup is in the place of sugar.

Sometimes the juices are dissolved to ʒ vj. or vij. when the decoction is made of simple water, and then no syrups are to be dissolved but only sugar.

Sometimes in cold affections of the Lungs, some portion of hony is to be joyned with the sugar, but very seldome.

Afterwards it is boyled to Syrup, which is kept for use.

The

The dose thereof is from ʒ j. ß. to ʒ ij. according to the greater or lesse efficacy of the syrup, and that once or twice in a month.

Lastly, it is taken in broth, altered with convenient herbs, or in melancholy affections, in whey, or the decoction of cordial fruits and flowers.

All which are prescribed in this form, ℞ &c. *make a decoction to* ℔ j. *in which dissolve* of whitest sugar ℔ j. *Let a syrup be perfectly boyled, clarified, and aromatized with* ʒ ij. of Cinamon; *which is to be kept in a glasse vessel, of which take* ʒ j. ß. or ʒ ij. *twice in a moneth with broth,* altered with leaves of Borrage, Bugloss, Maidenhair, and Scabious.

If the Syrup be made of juices, let it be prescribed in this form, ℞ *of clarified juices,* &c. *in which boyl* leaves of Sena, &c.

Chap. VIII.

Of Vomitories.

THE composition of Vomitories is so manifold and various, that we can scarcely give certain rules for the composing of them; but various formes of them are to be borrowed from various Authors, the most principal are those which follow, which are taken from the three sorts of Vomitories, that is, gentle, moderate, and vehement.

Gentle Vomitories are composed of lukewarme waters, ʒ viij. with ʒ ij. of oyl and butter, or a good draught of lukewarm barly water, or very fat broth.

Or of the root of a Pumpion, ʒ j. bruised and infused in ʒ viij. of barly water, or Hydromel.

Or of the decoction of the seed of Orach ʒ ß. flowers of Dill P. j. to ʒ viij. dissolving simple Oxymel, or syrup of vinegar, ʒ ij.

The use of all simples is prescribed in this form, ℞. &c. *Make a vomitory to be taken lukewarm, then after a little walking, put the finger into the throat, or provoke vomit with a feather dipt in oyl.*

Moderate Vomitories may be made of Radish roots ʒ j. *Agarick* ʒ ß. *boyled in* ʒ x. *of barly water, adding of Oxymel scillit.* ʒ ij. *if thick flegm abound; or of syrup of Vinegar, if choler abound.*

Or of the roots of Asarabacca, ʒ ij. *Lettice seed,* ʒ ß. *Broom-flowers,* P. ß. *boyled in* ʒ viij. *of Hydromel.*

Or of the roots of powdered Asarabacca, ʒ ß. *dissolved in Mint or Hyssop-water.*

Vehement Vomitories are made of white Vitriol prepared, ʒ ß. *or* ϑ ij. *dissolved in broth, or of Crocus Metallorum, (otherwise called Liver of Antimony) from* ϑ j. *to* ʒ ß. *infused in* ʒ iij. *of white Wine, or water of Carduus benedictus, with a little Cinamon.*

Chap.

Chap. IX.

Of Emulsions.

An Emulsion is made of sweet Almonds peeled, to ʒ j. *or* ʒ j. ß. *of the four greater cold seeds,* ʒ ß. *or* ʒ j. *of seeds of Lettice and whole poppy, where there is little sleep,* ʒ ß. *bruise them and dissolve them in* ℔ j. *of barly water for* iij. *doses, and sweeten them with sugar only to* ʒ iij. *or* iiij. *or with more pleasing Syrups, as syrup of Violets, syrup of Maidenhair.*

The forms of prescribing them is this, ℞. bruise them in a stone mortar, pouring in by little and little ℔ ß. *of barly water* in the Colature, *dissolve of syrup of Violets and Maidenhair ana* ʒ ij. make an Emulsion for *three doses,* to be taken morning and evening.

Sometimes Pine-kernels are added to the foregoing simples in affections of the breast.

Sometimes to the decoction of barly is added ʒ j. *of Rose-water, which makes the Emulsion the sweeter.*

Chap. X.

Of Milk.

Milk is given to people in Consumptions, and wasted by a Hectick Feaver; for others Asses milk is best, where refrigeration or cleansing is wanting; Goats milk, for nourishing and refreshing.

The use of it is prescribed for a whole month together, especially in the month of May, *the body being first purged; it is given the first to* ʒ iiij. *with* ʒ j. *of sugar of Roses, increasing every day* ʒ j. *till it comes to* ʒ viij. *increasing likewise proportionably the quantity of sugar to* ʒ ij. *continuing afterwards the same quantity.*

The hour of taking it, is the morning, four hours before meat; in which the Patient must neither sleep nor stir himself violently.

The form of prescribing them may be such: Let him use Asses milk newly milked for a whole moneth, taking the first day ʒ iiij. *of sugar* ʒ j. every day increasing the quantity of milk ʒ j. till it come to ʒ viij. then let him stay, and let him take the same quantity every morning *four* hours before meat; in which the party must neither sleep nor stir too much.

Chap. XI.

Of Whey.

Whey is prescribed in the spring time for fifteen daies or a whole month. In it are bruised over night cooling herbs, as Fumitory, Cichory, Sorrell, M. j. ß. or frequently Epithyme in melancholy affections to ʒ ß. in which

which case sometimes the juice of fragrant Apples is dissolved to ʒ j.

The dose is ʒ vij. to ℔ j. in the morning four hours before meat. The form thereof is thus prescribed, ℞. *of Whey* q. s. *boyl it gently and strain it*, and in one pinte thereof bruise over night the leaves, *&c. strain it in the morning, adding* ʒ j. of white sugar, *take it in the morning four hours before meat, every day, continuing a moneth together.*

Chap. XII.

Of sudorifick Decoctions.

Sudorifick Decoctions are commonly composed of the four principal Sudorificks, Guaiacum, Sassafras, China roots, Sarsaparilla, of which as well sudorifick as simple diets are composed.

The quantity of sudorificks is prescribed to iiij. or vj. and that of one or more according to the disposition of the sick party: with this observation, that Guaiacum is fitter for cold, China root for hot dispositions.

Afterwards they are infused in a sufficient quantity of fountain water, that for every ounce of sudorifick there should be so many ℔ of water; but infusion is made for 24 hours upon the hot cinders, and lastly they are boyled to the consumption of half.

The dose of the decoction is ʒ viij. in the morning, covering the body a little more then ordinary, to provoke sweat more easily.

The form of prescribing them may be thus, ℞. *Of the shavings of Guaiacum* ʒ iiij. *bark of the same,* ʒ ij. *infuse them 24 hours in* ℔ vj. *of fountain-water, upon hot cinders, boyl them in a double vessel with a gentle fire, and without smoke, to the consumption of the half, strain them through* Hippocrates *sleeve, and let the Colature be kept in a glasse vessel; of this take* ʒ viij. *every day in the morning, covering the body more then ordinary, to provoke sweat the better, continuing for the space of 20 or 30 daies.*

Sometimes persons that are more delicate, sweeten them with ʒ iij. or iiij. of Sugar, and ʒ ij. of Cinamon.

All that time that the sick person uses this sudorifical decoction is called a *diet*, because then an exact diet is to be observed, attenuating and drying; and for ordinary drink, the *second decoction* is prescribed, prepared out of the remnants of the first, which is called *Bochetum.*

The remaining part is taken either alone, or that it may be the more efficacious, add to it ʒ j of new sudorifick. It is infused for 8 hours in ℔ xij. of fountain-water; it is boyled to the consumption of the fourth part; it is sweetned and aromatized in this manner, ℞. *the remaining part of the foresaid decoction, infuse it in* ℔ xij *of fountain water, upon hot cinders for the space of 8 hours, boil it to the consumption of the fourth part, strain it through* Hippocrates *sleeve, adding of Sugar and Cinamon* q. s. *to make it pleasant. Make a Bochet, to be used for ordinary drink all the time of dieting, using in the mean while Bisket with Anise seeds, meat rosted and not boyled, Mountain-birds stuck with Cloves, or Cinamon, Raisins, Almonds, and Pine-kernels parched.*

If a simple order of diet be to be gone through, wherein sudorifick potions are not to be exhibited, but only a drying diet with the use of a *Bochet*; then

Then the Bochet is to be made of ℥ ij. of sudorifick infused and boyled in ℔ xij. of fountain water, ordering the rest as in the second decoction, in this form: ℞. *of the root of China cut into chips* ℥ ij. *infuse them in* ℔ xij. &c. *for twelve hours, and make a Bochet to be used for ordinary drink for the space of twenty or thirty daies, using Biscot in the same time.*

And sometimes a second decoction is prepared in the same manner out of ℥ ij. of new sudorifick, casting away the residence of the former decoction, the vertue whereof is almost lost.

In every sudorifick diet, this is to be *observed*, that the belly is for the most part part bound, which is to be loosened every fourth day with an emollient Clyster. And furthermore, because by sweat the more thin matter is evacuated, and the thicker part remains, therefore it is best to give a purging medicament every eighth day, abstaining then from the use of the sudorifick Potion.

Chap. XIII.

Of the decoction of an old Cock.

This decoction is used not seldome in Chronical diseases, as Hypochondriacal melancholy, Asthma's, and Diuturnal obstructions.

And it is double, Altering, and Purging.

The *Altering* is made of the same matter which was set down in the altering Apozem, and sudorificks beside are added to ℥ ij. Yet they differ very much in the manner of prescribing. For in this decoction, sudorificks, seeds, and fruits are first prescribed, and the belly of an old Cock is filled with them. Afterwards, roots, leaves, and flowers are added in the decoction, in this form: ℞. *of China root,* ℥ ij. *of seeds,* &c. *bruise those which are to be bruised, and mingle them together, and fill the belly of an embowelled old Cock with them, being wearied with blows and running before he be killed; make a decoction in a sufficient quantity of fountain-water* (or when there are obstructions, *in three parts of water and one of white wine) adding of roots,* &c. *flowers,* &c. *leaves,* &c. *boyl them till the flesh of the Cock be separated from the bones, strain and squeeze out the decoction, and keep it in a glasse vessell in a cold place, all the fat being taken off: of which take* ℥ viij. *every morning for many daies.*

The *Purging* decoction is prescribed in the same manner, adding to those aforesaid purging simples in the same quantity as in the purging Apozem, and mingle them with those which are put in the belly of the Cock. But commonly in this decoction is prescribed Sena, Polypody, wilde Saffron, Epithyme, Agarick, Turbith. The form of this decoction is thus: ℞. &c. *boyl them untill the flesh of the Cock be separated from the bones, of the Colature take* ℔ ij. *which is to be kept in a glasse vessell in a cold place, all the fat being first taken off: of which take* ℔ ß. *in the morning for four daies every moneth.*

Chap. XIV.

Of Broths.

Broths are twofold, Altering, and Purging.

The Altering Broths are made of convenient herbs, with a chicken, or with common broth, so that there be of herbs three or four handfuls.

The Broths most in use are refrigerating broth, in cholerick Feavers and hot distempers of the Liver: in this form, ℞. *of leaves* &c. *boyl them with a cock Chicken, and make broth, to be taken in the morning, continuing it for* 8 *or* 9 *daies.*

There are made sometimes pectoral Apozems in hot affections of the breast of pectoral simples decocted with a Chicken to the fourth part only, to which is added of China root ʒ j. to be prescribed before other simples. Oft-times opening Broths are used of opening roots, herbs and seeds, boyled in the said quantity with common broth half ready.

Restoring Broths are made of a fat Capon disbowelled, and cut in pieces, which is to be put without any liquor in a glasse vessel closely and accurately stopped, lest any thing breath out, boyl it in Balneo Maria to a kinde of rottennesse, squeeze out the juice, from which when the fat is separated, keep in a glasse vessel and a cold place for use.

Sometimes in each pint of Broth are added ʒ ij. or iij. of cordial juices, sugar as much, for the patient to use by it self, or with Broth.

Chap. XV.

Of a Bolus.

A *Bolus is twofold*, purging *and* corroborating.

A purging Bole is made of Cassia only to ʒ j. *which is only lenitive.*

Or of Cassia ʒ ß. *with* ʒ ij. or iij. *or* ʒ ß. *of other purging Opiate.*

Or of purging Opiates one or more to ʒ ß. ʒ vj. ʒ j.

Or of Opiates and purging Electuaries, in that proportion that the quantity of the purging Opiate be alwaies greater then that of the Electuary, and all together they must not exceed the quantity of ʒ j.

The form of all these is thus prescribed: ℞. of Cassia newly extracted, *&c.* make a Bolus with sugar to be taken every morning with syrup of Maidenhair, *or some other more convenient and gratefull to the palat.*

Sometimes Boles are made of Turpentine to ʒ ß. ʒ vj. *or* ʒ j. *to purge the reins, which is washed in white wine or some aperitive water, of which the form is this,* ℞. of Venice Turpentine washed, *&c.* make Boles, which wrap in a kinde of wafer, and let them be taken in a spoon with syrup of Maidenhair, in the morning 4 or 5 hours before dinner, continuing it for three daies.

Corroborating *Boles are made of* ʒ iij. *of some conserve or* ʒ ß. *confection* ʒ ß. *or* ϑ ij. *powder* ϑ j. *in this form,* ℞. *&c.* Make a Bolus with sugar to be taken in the morning two hours before meat.

Corroborating Boles are prescribed the next day after purgation, to strengthen the stomack, and other parts which have been weakned by purgation.

Chap. XVI.

Of Opiates.

Opiates are twofold, *purging*, and *corroborating*.

Purging Opiates are composed of the shop purging Opiates, purging Electuaries, powders of simple purgatives, and convenient purging syrup; in such a proportion that for every ʒ ij of Opiate, there be ʒ ij. or iij. of Electuary, and ʒ j. of simple purging Powders.

Sometimes it is made only of Opiates and Electuaries, the simple powders being omitted.

Sometimes only of Opiates and simple powders, the Electuaries being omitted.

Sometimes of Opiates alone.

Oft-times when the Opiates are to be made gentle, a portion of Cassia is to be mingled with the Opiates, either alone, or with Electuaries and powders mixed together.

The quantity of the whole Opiate may not exceed ʒ iiij.

But the Dose is from ʒ ß. to ʒ j. of it self in the form of a Bolus or with the decoction of fit herbs to be taken once in a week, or twice in a moneth.

The form of prescribing them is such: R. &c. *with syrup* of Roses solutive, *make an Opiate, of which you may take* ʒ ß. *by it self, or dissolved in the decoction of* Borage, Fumitory and Cichory, once in a week, with great care and good government of art.

A Corroborating Opiate is composed of Conserves to ʒ j. or ℥ j ß. Conditements to ℥ ß. ʒ j. Confections to ʒ ij ß. Powders to ʒ iij. ʒ ß. ʒ vj. with convenient Syrup.

Sometimes for ornament, leaves of gold are mixed N. ij. or iij. and they are prescribed after the powders. The dose is from ʒ ij, to ʒ iij. or which is most usual, about the bigness of a Chestnut, drinking after it convenient liquor, as some proper distilled water, or white Wine, or red Wine tempered with water.

All which are prescribed in this form: R. &c. *with syrup, &c. make an Opiate of which take about the bigness of a Chestnut every day in the morning, two hours before dinner, drinking after it a little draught of tempered wine, or borage-water.*

Sometimes they are prescribed to be taken two hours before supper, if any other remedies be to be taken in the morning.

Chap. XVII.

Of Conditements.

Conditements are made in the same manner, as corroborating Opiates, with the same quantity of conserves, confections, and powders, adding as much white sugar, or sugar of Roses, as equals the weight of them all, in this form: R. *of Conserves*, &c. *sugar of Roses to the weight of them all, make a Conditement covered with gold, which may be taken frequently in a spoon by it self*, or dissolved in broths, or with potable water in time of thirst, between meals.

But

But a Conditement differs in this from an Opiate, because that may be prescribed to corroborate, or alter all parts; but this only for affects of the heart and lungs.

Chap. XVIII.

Of a Lohoch or Colegma.

Lohochs are convenient only in pectoral affections; to expectorate the humours contained in the lungs, smooth the roughnesse thereof, and to stop spitting of bloud.

They are commonly made of Bechical powders to ʒ iij. ʒ ß. of sugar candied or penidiate, or of rose tablets ʒ vj. ʒ j. of convenient syrup, q. s.

Or to the foresaid are frequently added pulps of fruits, as of Raisins, Figs, Jubebs, to ʒ ß.

Lohochs are also made several other waies, but lesse commonly, which may be seen in several Authors.

They are prescribed after the following form: R. &c. *with syrups, &c. Make a Lohoch, to be used frequently with a stick of Liquorice, licking it by little and little.*

Chap. XIX.

Of Tablets.

Tablets are twofold, *Purging* and *Corroborating*.

Purging Tablets are in the shops common, and magisterials are seldome or never prescribed.

Roborating Tablets are made of simple powder, or compounded ʒ ß. ʒ vj. of sugar dissolved in proper water ʒ iiij or vj. in this form, R. &c. *Make Tablets in weight* ʒ ij. *of which take one every day two hours before meat, drinking, &c.* in the same manner as in a corroborating Opiate.

Tablets are also frequently used in affections of the Lungs, made of convenient powders in the same method.

Of Pills.

Pills are double, common in shops, or Magisterial.

Those in the shops are prescribed in cold affections especially, and in the winter season, to evacuate the remote parts from the stomack.

The form of prescribing them is this, R. *Mass of Pills, &c. let them be softned with &c. (water or convenient syrup) form 6 or 7 gilt Pills to be taken after the first sleep.*

If the Pills are weak, add gr. iiij. or v. of Diagrid. or Trochis Alhand.

Magisterial Pills which are vulgarly composed by the Physicians according to several indications, and are vulgarly called usual, because the use of them ought to be frequent; that is, once in a week, or twice in a moneth.

They are composed of several purgatives, *viz.* Aloes, Agarick, Turbith, Hermod. Rhub. Diagrid. Troches, Athandal, with correctives, all being reduced into powder, and mingled with convenient syrup.

The Basis of all these Pills is commonly Aloes, and prescribed usually to ʒ iij. or ℥ ß the other purgatives taken together exceed not the quantity of ℥ ß. the correctives to ʒ j. or ʒ j ß. the quantity of the syrup is not proportioned. The dose of the Pills is to be measured according to the efficacy of the purgatives, so that they may not purge vehemently, they must not exceed ʒ ß. or ℈ ij.

Sometimes against obstructions, Gum, Ammoniack, or Bdellium dissolved in vinegar, is mixed with the purgatives to ʒ ij. or ʒ iij.

They are prescribed in this form, ℞. *Aloes hepatical* &c. *make a powder of them all, and with syrup of Roses solutive, make a masse of Pills, of which let* ʒ j. *be formed into pills gilt, take* N. iij. or iiij. *in the morning two hours before dinner, once in a week.*

Chap. XXI.

Of Troches.

Troches are seldome prescribed by the Physicians, who are content with those in the shops; yet if a make them, he may easily do it, by taking powders fit for his intention to ℥ j. *or* ij. *and moistning them with convenient liquor or mucilage, of which being mixt together, make a paste, and of that tablets to be dried in the shade.*

Chap. XXII.

Of Powders.

Powders are prescribed to purge, corroborate, and for other intentions.

Purging powders are composed of simple powders acceptable to the taste, with their correctives, and sugar, in persons more delicate, the dose whereof is to be measured according to the efficacy of the purgatives.

These powders are taken dissolved in broth, or other liquor in the morning with care and good government.

Among the corroborating powders, those for the stomack are most in use, which are called *digestive*; they are made of the sweeter stomachicals, as Corianders, Anise, Fennel, Cinamon, and the like to ʒ ij. with an equal or double quantity of sugar, in this form, ℞. &c. *an equal or double proportion of sugar; mingle them, make a powder, of which take one spoon full after meals, eating or drinking nothing after it.*

THE SECOND ARTICLE of the SECOND SECTION: OF *The Composition of midling Medicaments.*

CHAP. I.

Of Suppositories.

SUppositories are used commonly to loosen the belly; but sometimes, though very seldome, against some affections of the fundament, and straight gut.

Those that loosen the belly are composed of hony to ʒ j. boyled and hardned, adding fit powders to ʒ j. or ℈ iiij. but those powders are common salt Hiera picra; or if stronger Medicaments be required, Sal gemmæ Ammoniack, hiera Diacolacynth, Hellebore powdered.

The form of them is thus, ℞. &c. *Make Suppositories, of which, one anointed with oyl or butter may be put into the fundament as often as need requires.*

CHAP. II.

Of Clysters.

CLysters, some are mollifying and laxative, some cleansing, others binding, others easing pain, others for other intentions.

Mollient and laxative, are made of the decoctions of mollifying herbs to ℔ j. or ℔ j. ß. laxative opiates, to ʒ j. or ʒ j. ß. sometimes of hony, Mercurial hony, hony of Roses or Violets, to ʒ ij. common oyl of Lillies or violets to ʒ iij. common salt, or sal gemmæ, to ʒ j.

But because emollient Clysters are prepared in the shops, therefore they are never prescribed, but absolutely proposed.

The form of this clyster is such, ℞. *of the common emollient Clyster decocted* ℔ j. ß. *in which dissolve* &c. *mingle them, make a Clyster to be injected in a convenient hour.*

A cleansing Clyster is composed of the decoction of barly thin, bran, and red Roses, of each one pugill. If it be to assuage also, flowers of Melilot and Camomil are prescribed to j. or ij. pugils. If for worms in children, Raisins, and Liquorice, to ʒ j. of each.

The

The quantity of the decoction may not exceed ℔ j. *and in that red sugar may be dissolved to* ʒ ij. *or hony of Roses with it, the quantity of the sugar being diminished; the yolk of an egge may be also dissolved* N. j. *for children,* ij. *for grown people.*

The quantity of the decoction for children is diminished to ℔. ß iij. *quarteries.*

Astringent Clysters are made of the decoction of astringent simples. The dose being little lesse then that of the Apozem, and in one ℔ *of the decoction sugar, hony of Roses, and yolks of Eggs according to the former dose are dissolved.*

Clysters easing pain are made of Goats milk, Sheeps milk, or the decoction of the head and guts of a Weather to ℔ j. *dissolving sugar and yolks of eggs according to the foresaid quantity.*

Sometimes in very great pains of the guts or parts adjacent, as the reins, &c. Philonium Romanum is dissolved to ʒ j. *or* ij. *or Laudanum opiaticum to* gr. viij. *or* ϑ ß.

Sometimes are made nourishing clysters of broth, sugar and yolks of egges, in which to corroborate the more, is dissolved confect. Alker. and of Hyacinth. to ʒ ij.

For the colick pain, are prescribed carminative clysters, of the decoction of simples that dispell wind; such as those are that attenuate flegm, after that manner as is said in the astringent, dissolving in the decoction oyl of Rue, Bayes, to ʒ iij. *Or else Clysters are made for the same intention, of strong Wine and oyl of Nuts, both to* ℔ ß.

To expell the stone of the reins, are made Clysters of the decoction of opening simples, dissolving aperitive oyls to ʒ iij. or iiij. of which the chief is oyl of Scorpions, Turpentine also is added dissolved with the yolk of an egge to ʒ j.

Chap. III.

Of Injections.

Injections are made into divers parts, as the womb, bladder, ears, and other hollownesses of the parts, whether caused by nature or disease, as fistula's and the like.

Injections are made into the womb to move the months, cleanse the filth thereof, asswage pain and inflamations, and on many other occasions.

These injections are made of the decoction of convenient simples, the dose being little lesse then of an Apozem, the decoction is made to ℔ j. *which is cast into the womb with a syringe, commonly called a Metrenchyta.*

Or such Injections are made of the juices of herbs purified, or distilled waters.

Some things are not seldome dissolved in the said liquors, as syrups, electuaries, troches, powders, and the like.

The other Injections are prescribed after the same method, which, as the before mentioned, being particular Remedies, are to be found in the books of particular practise.

Chap. IV.

Of Pessaries.

Pessaries in various affections of the womb are thrust into the neck thereof, being formed like the thick and long finger. Sometimes for Virgins they are made like little bals, for the easier admission, and then they are called *Mascals*. Pessaries are made, *first* of Opiates or oyntments only to ʒ j. ß. ʒ ij. suckt up in soft flax, and wrapt in silk or fine linnen. *Secondly*, of convenient powders to ʒ j. ʒ j. ß. moistened in boyled hony, like a suppository; of which a pessary is made. *Thirdly*, of the juices of herbs suckt up in cotten, to ʒ iij. with which powders may be mingled according to discretion, to ʒ ß. ʒ vj.

They are prescribed in this form, ℞. &c. make a pessary about the bigness of the great finger, which wrapt in silk and bound with a string, is to be put up into the neck of the womb.

Chap. V.

Of Errhines.

An Errhine is a liquid Medicament, which being snuffed up into the nostrils draws the humours from the brain, especially flegm, and is used for several affections of the nostrils.

It is composed of the juices of herbs appropriated to that purpose, which are extracted out of bruised leaves M. iiij. with ʒ iiij. vj. or viij. of white Wine, Cephalicks being added to the leaves for correction, and sometimes ʒ j. of Aqua vitæ for penetration.

Or of the decoction of fit simples consisting of half a dose of an Apozem to ʒ viij. in which are dissolved sometimes juices to ʒ ij. or iij. hony or syrup to ʒ j. or ij. powders to ʒ ß. or ʒ j. They are prescribed in this form: ℞. &c. *Make an Errhine to be used lukewarm in the morning two hours before meals, the mouth being filled before with water.*

Chap. VI.

Of Sternutatories.

Sternutatories are made to draw flegm from the brain, and in sleepy affections to excite the drowsie expulsive faculty thereof.

It is composed of the powders of sharp things, as pepper, sneezing-wort, mustard seed, seed of Staviſacre, root of white Hellebore, Euphorbium.

The quantity of all those must not exceed ʒ ij. *to which you may adde for the safety of the head* ℈ j. *of dry Marjoram.*

Note

Note that Euphorbium is very vehement, and not to be prescribed above gr. iij. *or* iiij.

The form of prescribing them is thus: ℞. &c. Mingle them, and make a very thin powder to be blown into the nostril through a small quill.

Chap. VII.

Of a Gargarism.

Gargarisms are made in several affections of the mouth and parts adjacent.

They are composed of the decoction of simples, equalling the dose of an Apozem to ℔ j. in which are dissolved convenient syrups to ʒ iij. or iiij. but because most frequently astringent Gargarisms are prepared to repell fluxions, therefore *Diamorum dianucum*, and syrup of Myrtle, and juice of Roses are most commonly dissolved therein: and often hony of Roses, if cleansing withall be needfull.

They are sometimes also made of distilled waters to ℔ j. dissolving the aforesaid syrups.

They are prescribed in this form, ℞. &c. *Make a Gargarism to be used every hour.*

Chap. VIII.

Of Masticatories.

Masticatories draw flegm plentifully from the brain.

They are made of the roots of wilde Pellitory only, cut in pieces and steeped in vinegar.

Or of the powders of many simples mingled with wax, of which little bals are made. The most usual simples of which they are made, are the roots of wilde Pellitory, Ginger, Orrice, Mustard seed, Staviſacre, long Pepper, Mastick, to which Cephalicks are added, as Cloves, Nutmegs.

The quantity of the powder may not exceed ʒ ß. the quantity of the wax is not determined.

The form of prescribing them is thus: ℞. &c. *Make a powder of them all to be mixed with white wax, whereof make many little balls, chew one of them in the morning with the head downward, spitting often.*

Chap. IX.

Of Collyriums.

Collyriums are composed in many forms, either in the form of an oyntment, or a liquor, or a cataplasm.

The

The most usual are those which are liquid, which are truly and properly called Collyriums.

They are composed of distilled waters to ℥ iij. or iv. with which mingle convenient powders, as Tutty prepared, white Troches, of Rhasis, washed Antimony, Sarcocol, steept in womans milk &c. to ʒ j. or ʒ j ß. sometimes juices are mingled with them, or the white of an egge beaten, to ℥ j. or ij.

The form of prescribing them is thus: ℞. &c. *Make a Collyrium to be instilled into the eyes morning and evening.*

The other forms of Collyriums are taken from particular practise; because they require an exact choice of remedies, and an accurate preparation, and dose, by reason of the exquisite sense of the part.

THE THIRD ARTICLE of the SECOND SECTION: OF *The Composition of external Medicaments.*

Chap. I.

Of an Epithem.

An Epithem is chiefly applyed to the heart and liver, to alter and corroborate those parts.

It is twofold, liquid, and solid.

That which is liquid is made of distilled waters to ℥ viij. or ℔ j. the juices of fruits, as Limons, Granates, fragrant Apples to ℥ ij. or iij. of vinegar of Roses to ℥ j. or ℥ j ß. of cordial powders to ʒ ij. iij.

Note, when sharp juices of Limons and Granates are prescribed, there is no need of vinegar.

Note also in an Epithem for the Heart, if the lungs be peculiarly affected, sharp things are not to be prescribed, because they hurt the breast.

Also in an Epithem for the Liver a greater quantity of sharp juices or vinegar is to be prescribed then in an Epithem for the heart.

Sometimes beside cordial powders, cordial confections are also mixed with them, Alkermes, or Hyacinth, to ʒ j. or ij. and Troches of Caphura in a refrigerating Epithem to ℈ ß. Saffron in a heating Epithem, to gr. v.

The form of prescribing them is thus: ℞. &c. *Make a liquid Epithem to be applied to the region of the heart lukewarm, frequently with scarlet clothes dipped and squeezed in this liquor.*

The solid Epithem is only applied to the heart, and is composed of cordial conserves to ℥ iij. confections ℥ ß. powders ʒ j. ß. or ʒ ij. with convenient cordial water.

The form of them is thus, ℞ &c. *with Rose water, make a solid Epithem to be applied to the region of the heart, with a scarlet cloth.*

This solid Epithem is not seldome prescribed alone, where there is a greater necessity of corroborating then altering. The liquid one is never applied, but the solid one must be applied after it presently. Therefore the Physicians use to prescribe the liquid and solid one one after another, adding in the end of the prescription, *make a solid Epithem to be applied to the region of the heart presently after the liquid one.*

To Epithems are referred the younger sorts of Animals dissected in two through the middle, sprinkled with cordial powders, and applied to the region of the heart. Those animals are Pigeons or Whelps: the form of prescribing them is thus: *Apply to the region of the heart a young Pigeon cut in two in the middle, and sprinkled with powder of cold Diamargarite Electuary.*

Or, ℞. *of the powder of cold Diamargarite Electuary* ʒ ij. *sprinkle the inside of a young Pigeon cut in two, to be applied to the region of the heart.*

Sometimes those Animals are applied to the forepart of the head shav'd, and sprinkled with Cephalick powder, to strengthen the brain.

Chap. II.

Of Fomentations.

FOmentations are made in divers parts, but most commonly in the side, against Pleuretick pains on the stomack, to corroborate it, on the Hypochondriums, to remove obstructions.

For the sides, decoctions are made of Emollient simples with addition of Anodynes and Resolvers, all which are prescribed in the dose of an Apozem in this form, ℞. &c. make a decoction of them all, with which frequently foment the side that is in pain, with a Hogs bladder half full of the decoction.

For the stomack, are prescribed stomachical simples in lesser dose then of an Apozem, to which are added Spices, or Cloves, Nutmegs, Spikenard, in a sufficient quantity, *viz.* of every one ʒ ij. iij. or ℥ ß. *Make a decoction in equal parts of fountain water, and of astringent red Wine added at the end*; or if no binding be required, in stead of fountain water, smiths water is to be prescribed.

The form of it is thus, ℞. &c. *Make a decoction in equal parts, &c. with which foment the region of the stomack while it is warm, a good while before meals, with two of the foresaid bladders half full of simples.*

For the Hypochondriums is made a decoction of opening simples in the said dose, some emollient things being mixed therewith in equal parts of fountain water, and white Wine added at the end; so that a hot distemper do not hinder it.

The form of it is thus, ℞. &c. *Make a decoction, &c. with which frequently foment the Hypochondriums with linnen clothes dipped in the warm decoction and squeezed.* If one Hypochondrium be pained only, you must prescribe that the region of the spleen, or liver be fomented, according as this or that part is affected, those simples being mixed in the decoction, which concern the parts most especially.

Chap. III.

Of Bathes.

Bathes are prepared for many intentions, *viz.* to refrigerate and moisten, to move the moneths, help conception, and in external affections, as scabs and leprosie.

They are composed of roots 3, 4 or 5, *ana* ℔ j. ℔ j ß. herbs 5, 6. of every one fasc. j. of seeds, from ℔ ß. to ℔ j. fruits, from ℔ j. to ℔ j ß. flowers, to M. iij. or iiij.

The form of prescribing them is thus: ℞. &c. *Make a decoction for a bath, to bathe in warm, without sweat, twice a day, for two or three daies.*

Chap. IV.

Of a Semi-cupe.

A Semi-cupe, is nothing else, but a half bath, which is but up to the navel of the Patient.

It is made of the same simples with the Bath, the dose being half as much, and prescribed as followeth, R. &c. *Make decoction for a Semi-cupe, for the patient to sit in from the knees to the navil morning and evening a good while before meals, for two or three daies, or when necessity requires,* if it be prescribed to ease pain.

Chap. V.

Of Oyles.

Oyls are very seldom composed by the Physicians, because they are ready in the shops upon all occasions: but if any one desire the way of composing Oyls, he may thus proceed.

Prescribe first of common oyl, or of the shops, of one or more ℔ ß. of powdered simples, ʒ j. of juice, wine, or other liquor fit for the purpose, ʒ ij. or iij. boyle them to the consumption of the juices, squeeze them out strongly, and make an Oyl to be kept for use.

If the shop Oyls are only prescribed, as is often done, or whether they be composed by the Physician, the form of them is thus: ℞. &c. *Mingle them, make an Oyl, wherewith to anoint such a part, hot or lukewarm, warm clothes being also applied.*

Or ℞. &c. *Mingle them, make an Embrocation upon such a part, applying* &c.

Chap. VI.

Of Liniments.

LIniments are made of the shop Oyls, with greases, butter, marrow, or mucilages in such a proportion, that the quantity of the oyls ought to be double to that matter of which the Liniment consists; which is betwixt an oyl and an unguent.

Or in the place of grease or butter, wax is prescribed in such a quantity that for ʒ j. of oyl, there be ʒ j. of wax; yet commonly the proportion of the wax is not set down, but in the end is prescribed of wax q. s. sometimes powders are mixed to ʒ ß. for ʒ j. of oyl.

Or lastly, a Liniment is made of shop oyls in a double quantity, adding, if it be requisite, powders in the same quantity.

The quantity of the Liniment is prescribed according to the bigness of the part affected, commonly to ʒ iiij. or vj.

The form thereof is thus: ℞. &c. *Make a Liniment for the part affected, with which the part affected is to be anointed while it is hot, still applying warm clothes.*

Chap. VII.

Of Oyntments.

OYntments are composed of oyls, powders and wax in such a proportion, that for ʒ j. of oyl, there be of powder ʒ j. ʒ j ß. of wax ʒ ij. yet the quantity of wax is not prescribed, but only they say of wax q. s.

The quantity of the whole masse is prescribed proportionably to the bigness of the part to be anointed, and the length of time wherein it must be used, to ʒ v. vj. or viij. the form thereof thus, ℞. &c. *Make an oyntment to anoint the part affected.*

Frequently the most efficacious unguents are made of oyles to ʒ iv. v. or vj. powders to ʒ ß. ʒ vj. juices half as much as the oyl, or a little more, so that they may boyl to the consumption of the juices, adding afterwards of wax q. s. or sometimes of shop oyntments ʒ j ß. ʒ ij. q. s.

The form of them is thus: ℞. &c. *Let them boyl to the consumption of the juice. In the liquor squeezed out dissolve of wax &c. Make an oyntment.*

Note, that in the aforesaid oyntments, fats, marrows, butter, and mucilages are often mingled, which are to be taken for oyl, and gums, as Ammoniack, Bdellium, *&c.* which are in stead of wax.

Oyntments are also made of the shop oyntments to ʒ ij. oyl in the same quantity more or lesse, powders to ʒ ij. or iij. wax q. s.

Sometimes oyntments of the shops are prescribed alone without any other addition.

Chap. VIII.

Of Emplasters.

Emplasters are commonly composed of oyl, powders, and wax, or of such things as are of an oily substance, as grease, marrow, butter, mucilages, or such things as are like wax, as gums, pitch, rosin.

The proportion of these is such, that for ℥ j. of oyl there be of powder ʒ vj. of wax ℥ j ß. the quantity of the whole masse is the same with that of the oyntment.

Emplasters are also made of the shop-plasters to ℥ j. or ℥ j ß. powder to ℥ ß. or ʒ vj. oyl ℥ j. wax q. s. adding a little turpentine.

Or else only of the shop plaisters; in bigness proportioned to the part affected.

The form of prescribing them is thus: ℞. &c. *Make an Emplaster, to be spread upon leather, and applied to such a part.*

Note, that the figure of the Emplaster is prescribed in many parts, for the forepart of the head like the letter T. or an ovall figure for the stomack, like a buckler; for the spleen, like an oxes tongue; for the womb, round; for the kidney, foursquare; for other parts the shape is not determined, but only is said, *Make an Emplaister of a convenient bigness.*

Chap. IX.

Of a Cataplasm.

A Cataplasm is commonly made of roots, leaves, seeds, fruits, amounting to the dose of a fomentation, which are boyled in convenient liquor, afterwards they are bruised and strained through a hair seive, adding of powders or meal ℥ ij. iij. or iv. of oyls, or greases, ℥ iij. or iiij.

The form of prescribing them is thus: ℞. &c. *Boyl them all, bruise them in a stone mortar, and passe them through a a hair seive, adding* &c. *make a Cataplasm, and apply it to the part affected.*

Very often after the use of the fomentation, a Cataplasm is applied, and is prepared of the remaining part thereof, when there is an intention to mollifie or resolve, &c. in this form, ℞. *the residence of the foresaid fomentation, bruise them in a mortar*, &c.

Sometimes it is made of fruits rosted under the cinders, as in a loosness of the belly, and a dysentery of Quinces rosted under the cinders N. iij. or iiij. according to the bigness of them; or more certainly to ℔ j. ℔ j ß. bruised and streined, adding astringent powders in the said dose, and a little red wine, if it be requisite.

In a flux of the belly, a Cataplasm is made of crusts of bread steeped in Wine to ℔ ß. or quar. ij. to which are added corroborating and astringent powders, to ʒ j. or ij.

Or

Or to aſſwage pain in inflammations, a Cataplaſm is made of crums of white bread ſteeped in milk to ℔ ß. two yolks of eggs, Saffron ϑ j. ſometimes of oyl of Roſes q. ſ.

Chap. X.

Of a Veſicatory.

A Veſicatory is twofold, either out of the ſhops, or Magiſterial.

In the ſhops is uſed a veſicatory Emplaſter which is often preſcribed by the Phyſicians in this form, ℞. *of the maſſe of veſicatory Emplaſter* ℥ j. *or* ℥ j ß. *ſpread it upon leather, and make an Emplaſter about the bigneſſe of the palm of the hand to be applyed* to the hinder part of the neck, or to what other part ſhall ſeem requiſite.

Magiſterial is compoſed of ſharp leaven ℥ j. powdered Cantharides ʒ iij. with vinegar of Roſes, to make a veſicatory Emplaſter.

Sometimes in affections of the eyes and teeth veſicatories are applied behinde the ears in the form of a half moon, in this form, ℞. *of the maſſe of veſicatory Emplaſter* ℥ j. *form two Emplaſters in the form of a half moon, to be applyed behinde each ear.*

Chap. XI.

Of little Bags.

Little bags are preſcribed for two reaſons chiefly, to reſolve any cold, thick humour ſetled in any part; ſo ſuch little bags are applyed to the head frequently in the time of ſudorifick dietings, after the taking of the ſudorifick potion, or to ſtrengthen chiefly the heart and ſtomack.

Little bags made to *reſolve*, are moſt commonly compoſed of millet to ℔ j. common ſalt ℔ ß. diſcuſſing ſeeds, as Aniſe, Fennel, Fenugreek, Bay-berries, to ℔ ß. ℥ iij.

They are preſcribed in this form: ℞. &c. fry them in a pan powring on them by little and little generous wine q. ſ. put them in two little bags, which are to be applyed hot one after another, ſprinkled firſt with Aqua vitæ.

Corroborating little bags, are made of the powders of roots, woods, barks, ſpices ʒ ij. ℥ ij ß. to which Cyprian or Violet powder is ſometimes added to ℥ ß. Moſch and Amber to gr. iiij. vj. ϑ ß.

They are preſcribed in this form: ℞. &c. *Make a powder of them all to be put in a musked cotton, and with red ſilk pricked in many places, make a quilt, which being hung about the neck is to be carried upon the region of the heart or ſtomack.*

Chap.

Chap. XII.

Of Quilts.

Quilts do imitate the corroborating little bags designed to corroborate and heat the brain.

They are made of odoriferous Cephalicks, as roots, to ℥ j. leaves, to M. ij. or iij. flowers, to P. ij or iij. spices, ℥ ß. to which may be added Violet and Cyprian powder, ℥ ß. Storax, Benzoin, ʒ j. or ij. Musk ℈ ß.

The form of them is thus prescribed: ℞. &c. *Make a powder to be put in a musked cotton, and with silk cloth pricked in many places, make a Quilt to be carried upon the head, or sowed to the cap.*

Sometimes two Quilts are prescribed, one for nights, another for daies, and then the quantity of the powder is to be doubled; and so to be prescribed, *Make two Quilts, one to be sowed in the cap, the other to be worn by night.*

Chap. XIII.

Of Frontals.

A Frontal is frequently applyed to asswage pain in the head, and provoke sleep, of the four greater cold seeds, Lettice and white Poppy, to ℥ ß or ʒ vj. flowers of Roses, Violets, and Water-lillies, p. iij. adding for strength Chermes, to ʒ ß. powder of the three Saunders, to ʒ j. sometimes flowers of Camomil, and Melilote, *ana* p. ß. which ease pain, and do not heat very much.

The form of them all is thus: ℞. &c. *Make a thick powder of them all to be put in two linnen clothes, which being sprinkled with vinegar, is to be applyed to the forehead at the hour of sleep.*

A Frontal is made sometimes in a moist form, near the nature of an oxyrhodine, and more intensely refrigerates, and provokes sleep in Phrensies and burning Feavers, and long watchings. It is composed of Populeon ointment, to ℥ j. oyl of Roses, to ℥ ß half the white of one Egge, adding a little vinegar of Roses, in this form: ℞. &c. beat them all together, and moisten flax therein, and so apply them to the forehead between two linnen clothes.

Sometimes are added conserves of Roses, Violets, to ℥ ß. or ʒ vj.

FINIS.

These Books following are to be sold by Henry Everſden, *at the Greyhound in* Pauls *Church-yard.*

AN Expoſition, with Practical Obſervations on the Nine firſt Chapters of the *Proverbs*, by *Francis Taylor* Miniſter of *Canterbury*, in quarto.

An Expoſition, with Practical Obſervations on the whole Book of *Canticles*, in quarto, by *John Robotham*, Miniſter of the Goſpel.

An *Idea*, or body of Church-diſcipline in the Theorick and Practick, by Mr *Rogers*, in quarto.

Imputatio Fidei; Or a Treatiſe of Juſtification; wherein the imputation of Faith for righteouſneſſe (mentioned in *Rom.*4.5,6.) is *explained*, by Mr. *John Goodwin*, Miniſter of the Goſpel, in quarto.

The *Right of Dominions*, or the *Prerogative of Kings*, proved from ſcripture, by Dr. *Welden.*

Lucas Redivivus, or the Goſpel-Phyſician, preſcribing (by way of meditation) divine Phyſick to prevent diſeaſes, not yet entred upon the ſoul, by *John Anthony* Doctor in Phyſick, in quarto.

Mercy in her Exaltation, a Sermon preached at the Funeral of Mr. *Thomas Taylor*, by Mr. *John Goodwin*, in quarto.

Anabaptiſts Meribah, or *Waters of Strife*, being an Anſwer to Mr. *Tho. Lamb* Merchant, by Mr. *Price* one of Mr. *John Goodwins* Congregation.

The natural mans caſe ſtated, or an exact map of the little world, Man, in ſeventeen Sermons, by Mr. *Chriſtopher Love*; to which is added a Sermon preached at his Funeral, by Mr. *Thomas Manton* of *Newington*, in octavo.

Gods glory in mans happineſſe, or the freeneſſe of Gods grace electing us, by *Francis Taylor* of *Canterbury*, in octavo.

The Lords Prayer unclaſped, being a vindication of it, againſt all Schiſmaticks and Hereticks, called *Enthuſiaſts* and *Fratracilli*, by *James Harwood*, B. D.

Hippolytus Tranſlated out of *Seneca*, by *Edm. Preſtwich.*

Goſpel publick worſhip, or the Tranſlation, Metaphraſe, Analyſis, and Expoſition of *Rom.* 12. from *verſ.* 1, to 8. deſcribing the compleat pattern of *Goſpel-worſhip.*

Alſo an Expoſition of the 18. Chapter of *Matthew*; to which is added a diſcovery of *Adams* threefold eſtate in Paradiſe, viz. *Moral*, *Legal*, and *Evangelical*, by *Thomas Brewer*, in octavo.

A Comment on *Ruth*; together with two Sermons, one teaching how to live well; the other minding all how to die well, by *Tho. Fuller* Author of the *Holy State.*

Pearls of Eloquence, or the ſchool of Complements, wherein Ladies, and Gentlewomen may accommodate their Court by practiſe, by *Will. Elder* Gent. in 12.

The doctrine of laying on of hands vindicated and aſſerted, being an Anſwer to Lieut. Col. *Paul Hobſon*, in quarto.

The Male of the Flock, a Sermon preached before the Lord Maior, out of the 4. of *Malachy*, by Mr. *Aggas* Miniſter of *Chynis.*

The Tryers and Ejectors tryed and caſt by the Laws of God and men, by *J. Goodwin.*

The Grand Inquiry who is the righteous Man, by *Will. Moore* Miniſter at *Whaley* in *Lancaſhire.*

The juſt mans Defence, being the Declaration of the Judgement of *James Arminius*, concerning Election and Reprobation. *FINIS.*

A Dictionary Explaining all the difficult words in this Treatise.

A.

Abdomen, The belly or paunch.
Acidity, sharpness, sowreness.
Acrisy, want of a Crisis. vide Crisis.
Adolescency, growing age.
Agglutinate, to fasten or glue together.
Aliment, whatever is taken into the body to nourish it.
Alommous, of the nature of allom.
Alopecia, shedding of the hair.
Alysmus, unquietness of the mind.
Amaritude, bitterness, sharpness.
Ametry, immoderateness, excess in proportion.
Amnion, skin next the child wrapping it all over.
Anacatharsis, purging out, expelling by purge.
Analogy, likeness, resemblance.
Anastomosis, an opening of the mouthes of the veins whereby bloud issues.
Anodyne, a medicine to asswage pain.
Antiperistasis, the concurrence and jarring of contraries.
Aorta, the root of all the arteries which serve the whole body.
Apertive, opening.
Apposition, putting together, joyning.
Apozeme, a medicine made of broth of several herbs and other ingredients.
Apyrexy, the remitting of a feaver.
Aqueous, watry.
Aridity, dryness, drought.
Aromatize, to perfume, sweeten.
Arthritical, gouty, diseased in the joynts.
Arteria aspera, the wind-pipe.
Asperity, roughness.
Astriction, binding together.
Asthma, difficulty of breathing.
Atrabilary, troubled with black choler.
Atrophy, want of nourishment when the body pines away.
Auctive, increasing, causing growth.

B

Bechical, belonging to a cough.
Bilious, cholerick.
Boulimia, an insatiable hunger.
Bronchia, the hollow gristly pipes that spread themselves through the body of the lungs, being branches of the wind-pipe.
Bronchorele, swelling in the wind-pipe.
Bubo, a sore in the groin.

C.

Cacochymy, the abounding of evil humors.
Calcined, burned to ashes in a crucible.
Calidity, heat.
Callosity, a brawny hardness in the skin.
Carminative, medicines that break the wind.
Cartilage, gristle.
Carotides, branches of the great artery going up to the head with the jugular veins.
Carnosity, fleshiness.
Caries, foulness, rottenness, or corruption of a bone.
Cataplasme, a pultise.
Catarrhe, a defluxion of the humors from the brain.
Catoche, a waking drousiness and dulness of the sences.
Cavity, hollowness.
Caustick, medicines to burn the skin for issues.
Cephalick, belonging to the head.
Chorion, the outmost skin wrapping the child all over.
Chyle, white juyce coming out of the meat digested in the stomach.
Cicatrize, to bring to a scar, or close up a wound
Colature, straining.
Collyrium, an eyesalve.
Coma, heavy and long sleep.
Condensation, a thickening.
Congelation, freezing together.
Consistence, body stiffened with cold, or substance.
Constipation, stopping up.
Contiguity, nearness.
Corneatunica, a coat of the eye like horn.
Corrode, biting, fretting.
Crisis, a breaking away of the disease by natures conquest of the cause.
Crassity, grosness.

D.

Decoction, the liquor wherein things are boiled.
Defecated, cleansed from dregs.
Deliration, dotage, raving, talking idlely.
Deliquium, a fainting or swouning.

Denſity, thi kneſs.
Deterſe, ſcoured, cleanſed.
Diabete, a plentiful ſending forth of urine, which a violent thirſt and conſumption ſucceeds.
Diagridiate, medicines that have ſcammony in them.
Diametrically, directly oppoſite.
Diapedeſis, an iſſuing of bloud through the pores of the veins.
Diaphanous, tranſparent, clear.
Diaphoretick, ſweats cauſed by nature oppreſſed with a malignant humor and forcibly driving it out.
Diaphragma, the midriffe.
Diaſtole, the extending or ſwelling of an artery.
Diatheſis, diſpo ition.
Diſcrete, quantity uncontinued, parted.
Diſlocation, diſplacing.
Diſparity, unevenneſs.
Diureticks, medi ines provoking urine.
Dyſcracy, evil temper or diſpoſition.
Dyſenteria, gloudy flux.
Dyſpnæa, ſhortneſs of breath.

E.

Embrocation, bathing, bedewing, moiſtening.
Emplaſtick, ſticking.
Emproſthotonus, a Cramp in the forepart of the body.
Empyema, a corrupt mat er between the breaſt and lungs following a pleuriſie.
Emulſion, milkes made of cool ſeeds.
Eneorema, that whi h hangs like a cloud in urine
Enargetically, effectually.
Ephemeral, daily returning.
Epiala, a feaver produced by cold flegm.
Epicraſis, a gentle evacuation of bad humors, and receiving good inſtead.
Epilepſie, a convulſion of the whole body by fits
Epiploon, the caul.
Epoulotick, cauſing or inducing a ſcar.
Eroſion, fretting, eating.
Eruginous, ruſty.
Eriſipelas, a ſwelling cauſed by choler.
Exacerbation, the fit of a diſeaſe.
Excoriation, fleaing the skin away.
Eucraſy, a good well diſpoſed temper.

F.

Farinaceous, mealy, like meal.
Fiſſure, cleaving, dividing, parting.
Friable, apt to crumble, ſhort.
Frigidity, colonels.
Fuliginous, ſmoky, miſty.
Fungous, ſpungy.

G.

Gibboſity, crookedneſs of the back.
Glaſteous, of the colour of woad.
Glutinous, clammy like glue.
Gracility, ſlenderneſs.
Gravative, burdenſome, heavy.
Gravity, heavineſs.
Grumous, ful of clodds or lumps.
Gypſeous, limy.

H.

Habit, the whole bulk and ſubſtance of the body.
Hallucination, error in judgement.
Hæmorrhagia, breaking fo th of the bloud from any part of the body.
Hæmorrhoides, veins of the fundament, to which leeches are applyed.
Hepatitides, veins coming out of the liver.
Heterogeneous, of another nature or kind.
Homogeneous, of the ſame nature or kind.
Humidity, moiſture.
Hydromel, hony and water.
Hypochondrium, the forepart of the belly about the ſides and ſhort ribs above the navel.
Hypogaſtrium, the lower part of the belly under the navel.
Hypoſtaſis, the ſettling of urine.
Hyſterical, troubled with fits of the mother.

I.

Ichor, raw unconcocted bloud.
Idiopathy, any ones particular and proper affection.
Idioſyncracy, any ones proper and peculiar temper
Igneous, fiery, burning.
Immobility, ſtaiedneſs, fixedneſs, not moveable.
Inteſtinum rectum, the ſtraight gut.
Intercoſtal, between the ribs.
Invalidate, to weaken.
Irrepent, creeping in ſecretly.

L.

Lævity, ſmoothneſs.
Levity, lightneſs.
Lienous, troubled with the ſpleen.
Lienteria, a flux when meat goes away unconcocted.
Lipothymia, fainting or ſwouning.
Lipyria, an hot feaver, the outward parts being cold.
Lithontripticks, medi ines to break the ſtone.
Lubricity, ſlipperineſs.
Luxation, looſening of one joynt from another.

M.

Magisterial, medicines invented by a Physician for his patient contrary to common ones in shops.
Malacia, immoderate lust of women with child
Marasmus, a consuming feaver.
Masticatory, medicines to be chewed to bring away rheume.
Membranes, skin or coat of the arteries or veins
Meninx, the filme enwrapping the brain.
Mesaraick veins, little veins conveying the chyle from the stomach to the liver.
Mesenterium, the skin which knits the guts together.
Morbifick, matter causing the disease.

N.

Narcotick, stupifying medicines which dull the sense of feeling, and cause deep sleep.
Nauseousness, sick stomach inclining to vomit.
Nephritical, troubled with pain in the reins.
Nephrocatartick, medicines to purge the reins.
Nidorous, swelling of burnt fat, or scorched meat

O.

Obesity, fatness.
Obturation, shutting, stopping.
Oesophagus, the mouth of the stomach.
Oleaginous, oyly.
Ophthalmia, an inflammation of the eyes.
Opisthotonus, a convulsion when the body is drawn back.
Organ, peculiar parts of the body.
Osseous, bony, full of bones.
Oxycratium, vinegar and water mingled.
Oxydorticks, medicines making the eyesight quick.
Oxyrhodine, vinegar of roses.
Oxysaccharum, syrup of vinegar and sugar.

P.

Paraphrenitis, a hot distemper communicated to the brain causing a disease like a phrensie.
Paregorical, mitigating, asswaging.
Parenchyma, the substance of the bowels.
Paroxysme, a fit of any disease.
Pathognomonical, properly signifying the species of the disease.
Pathology, treatise of diseases.
Pepasmus, the producing a thing to ripeness and concoction.
Pepsis, concoction, ripeness, digestion.
Peripneumony, an inflammation of the lungs.
Peritoneum, the inner coat of the belly which covers the gut.
Pharmaceutick, any medicines made by the Apothecary.
Phlegmon, an inflammation or swelling caused by bloud.
Phthisis, consumption, corruption.
Physiology, treatise of nature.
Pica, lust of women with child.
Pituitous, flegmy.
Plethora, abounding and fulness of bloud.
Pleura, a thin skin investing the inside of the ribs.
Podagrical, gouty.
Polypus, an excrescency of flesh hanging down to the lower part of the nose like the fish Polypus.
Porraceous, green, of the colour of leeks.
Primigenious, primitive, first produced.
Procatarctick, first working, primary occasions, and causes.
Puerility, childs age.
Pulsifick, causing to beat.
Pungitive, pricking.
Purulent, ful of matter and corruption.
Pyrotick, hot, burning.

Q.

Quadruple, four-fold.

R.

Rarity, thinness.
Refrigeration, cooling.
Respiration, breathing.
Retentive, power whereby the parts hold fast nourishment drawing back of bloud or humor from the parts affected.

S.

Salprunella, salt-peter purified with brimstone
Salsuginous, salt.
Salubrity, healthiness.
Sarcotick, producing flesh.
Scirrhus, an hard swelling without pain.
Sediment, settling of urine.
Semeiotick, shewing the signes or Symptomes of diseases.
Serum, wheyish humor affording matter of urine.
Siccity, driness.
Spagyricks, Chymical Physicians.
Spasmus, a cramp or convulsion.
Spermatick, full of seed.
Spinalis medulla, marrow of the backbone.
Spumous, frothy.

Struma, a ſwelling in the neck, the kings evil, or a bunch in the back.
Sudoriferous, cauſing ſweat.
Superficies, the outſide of any thing.
Suppuration, a collection of matter in an impoſtume when it is ready to break.
Syderation, blaſting with heat.
Syllogizing, reaſoning by argument.
Symbolize, to be like.
Symmetry, juſt proportion.
Symptome, an evil diſpoſition of body which depends upon and accompanies a diſeaſe.
Synochical, continual, ſymptomatical feaver without fits, cauſed by a foregoing diſeaſe.
Syſtole, contraction, falling or ſinking of the artery.

T.

Tablets, medicines made up four ſquare.
Teneſmus, a continual deſire of going to ſtool, and voiding nothing but ſlime or bloudy matter.
Tenſive, ſtretching out.
Tetanus, an extending cramp.
Therapeutick, treatiſe of healing medicines.
Tophaceous, ſandy.
Tranſpiration, paſſage of vapours through th pores.
Trochiſated, made up in form of a little bow

V.

Valetudinary, ſickly.
Ventricle, the ſtomach.
Vertebra, the turning bones of the whole bac
Vertigo, ſwimming in the head.
Veſicatory, medicines applyed to the skin t cauſe bliſters.
Vitelline, like the yolk of an egge.
Vitreous, like glaſs.
Ureters, paſſages conveying the urine from the kidney to the bladder.
Vulnerary, belonging to wounds.

FINIS.